DENON

AV SURROUND RECEIVER

AVR-1312

Owner's Manual

❑ SAFETY PRECAUTIONS

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings.
   Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments/accessories specified by the manufacturer.
11. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.

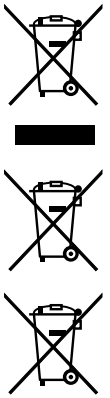
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel.
    Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Batteries shall not be exposed to excessive heat such as sunshine, fire or the like.

CAUTION:
To completely disconnect this product from the mains, disconnect the plug from the wall socket outlet.
The mains plug is used to completely interrupt the power supply to the unit and must be within easy access by the user.

• DECLARATION OF CONFORMITY
We declare under our sole responsibility that this product, to which this declaration relates, is in conformity with the following standards:
EN60065, EN55013, EN55020, EN61000-3-2 and EN61000-3-3.
Following the provisions of Low Voltage Directive 2006/95/EC and EMC Directive 2004/108/EC, the EC regulation 1275/2008 and its frame work Directive 2009/125/EC for Energy-related Products (ErP).

DENON EUROPE
Division of D&M Germany GmbH
An der Kleinbahn 18, Nettetal,
D-41334 Germany

A NOTE ABOUT RECYCLING:
This product's packaging materials are recyclable and can be reused. Please dispose of any materials in accordance with the local recycling regulations.
When discarding the unit, comply with local rules or regulations.
Batteries should never be thrown away or incinerated but disposed of in accordance with the local regulations concerning battery disposal.
This product and the supplied accessories, excluding the batteries, constitute the applicable product according to the WEEE directive.

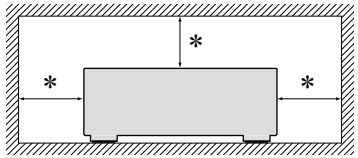


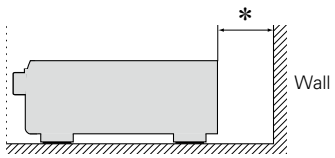
❑ NOTES ON USE

WARNINGS

- Avoid high temperatures.
  Allow for sufficient heat dispersion when installed in a rack.
- Handle the power cord carefully.
  Hold the plug when unplugging the cord.
- Keep the unit free from moisture, water, and dust.
- Unplug the power cord when not using the unit for long periods of time.
- Do not obstruct the ventilation holes.
- Do not let foreign objects into the unit.
- Do not let insecticides, benzene, and thinner come in contact with the unit.
- Never disassemble or modify the unit in any way.
- Ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths or curtains.
- Naked flame sources such as lighted candles should not be placed on the unit.
- Observe and follow local regulations regarding battery disposal.
- Do not expose the unit to dripping or splashing fluids.
- Do not place objects filled with liquids, such as vases, on the unit.
- Do not handle the mains cord with wet hands.
- When the switch is in the OFF (STANDBY) position, the equipment is not completely switched off from MAINS.
- The equipment shall be installed near the power supply so that the power supply is easily accessible.

❑ CAUTIONS ON INSTALLATION





∗ **For proper heat dispersal, do not install this unit in a confined space, such as a bookcase or similar enclosure.**
- More than 0.3 m is recommended.
- Do not place any other equipment on this unit.

Getting started

Thank you for purchasing this DENON product. To ensure proper operation, please read this owner's manual carefully before using the product.
After reading them, be sure to keep them for future reference.

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Accessories

Check that the following parts are supplied with the product.

① Getting Started 1
② CD-ROM (Owner's manual) 1
③ Service network list 1
④ Power cord 1
⑤ Remote control unit (RC-1158) 1
⑥ R03/AAA batteries 2
⑦ AM loop antenna 1
⑧ FM indoor antenna 1

④

Europe model

Australia model

⑤

⑦

⑧

Features

Fully discrete, identical quality and power for all 5 channels (110 W x 5ch)

The unit is equipped with a power amplifier that reproduces high-fidelity sound in surround mode with equal quality and power for all channels, true to the original sound.
The power amplifier circuit adopts a discrete-circuit configuration that achieves high-quality surround sound reproduction.

Supports HDMI 1.4a with 3D, Deep Color and "x.v.Color" function (☞page 5)

This unit can output 3D video signals input from a Blu-ray Disc player to a TV that supports a 3D system.

4-HDMI inputs and 1-output

The unit is equipped with 4 HDMI input connectors for connecting devices with HDMI connectors, such as a Blu-ray Disc player, game machine, HD video camera, etc.

High definition audio support

The unit is equipped with a decoder which supports high-quality digital audio format for Blu-ray Disc players such as Dolby TrueHD, DTS-HD Master Audio, etc.

Dock connecrivity for iPod® and network streaming (☞page 13)

If an optional DENON control dock for iPod (ASD-3N, ASD-3W, ASD-51N or ASD-51W) is connected to this unit, you can listen to Internet radio or enjoy music and photos stored in your PC.

* An Internet connection environment is required.

Easy to use, screen display

Simple settings are enabled with the setting menus displayed on the TV screen. When you control the sound volume, the volume level is displayed on the screen, and when you switch the input source, the name of the input source is displayed.

Cautions on handling

- **Before turning the power on**
  Check once again that all connections are correct and that there are no problems with the connection cables.
- Power is supplied to some of the circuitry even when the unit is set to the standby mode. When going on vacation or leaving home for long periods of time, be sure to unplug the power cord from the power outlet.
- **About condensation**
  If there is a major difference in temperature between the inside of the unit and the surroundings, condensation (dew) may form on the operating parts inside the unit, causing the unit not to operate properly.
  If this happens, let the unit sit for an hour or two with the power turned off and wait until there is little difference in temperature before using the unit.
- **Cautions on using mobile phones**
  Using a mobile phone near this unit may result in noise. If that occurs, move the mobile phone away from this unit when it is in use.
- **Moving the unit**
  Turn off the power and unplug the power cord from the power outlet. Next, disconnect the connection cables to other system units before moving the unit.
- **About care**
  - Wipe the cabinet and control panel clean with a soft cloth.
  - Follow the instructions when using a chemical cleaner.
  - Benzene, paint thinner or other organic solvents as well as insecticide may cause material changes and discoloration if brought into contact with the unit, and should therefore not be used.

Basic version

Here, we explain the connections and basic operation methods for this unit.

- **Connections** ☞page 4
- **Playback (Basic operation)** ☞page 11
- **Selecting a listening mode (Surround mode)** ☞page 21

TV	Connection	☞page 5, 7
	Playback	–
DVD	Connection	☞page 5, 7
	Playback	☞page 12
DOCK	Connection	☞page 9
	Playback	☞page 13
GAME	Connection	☞page 5
	Playback	–
TUNER	Connection	☞page 10
	Playback	☞page 17

BD	Connection	☞page 5, 7
	Playback	☞page 12
SAT/CBL	Connection	☞page 5, 8
	Playback	–
PORTABLE	Connection	☞page 9
	Playback	☞page 12
V.AUX	Connection	☞page 8
	Playback	–

For speaker connections, see page 26, page 2 “Connecting the speakers”.

Important information

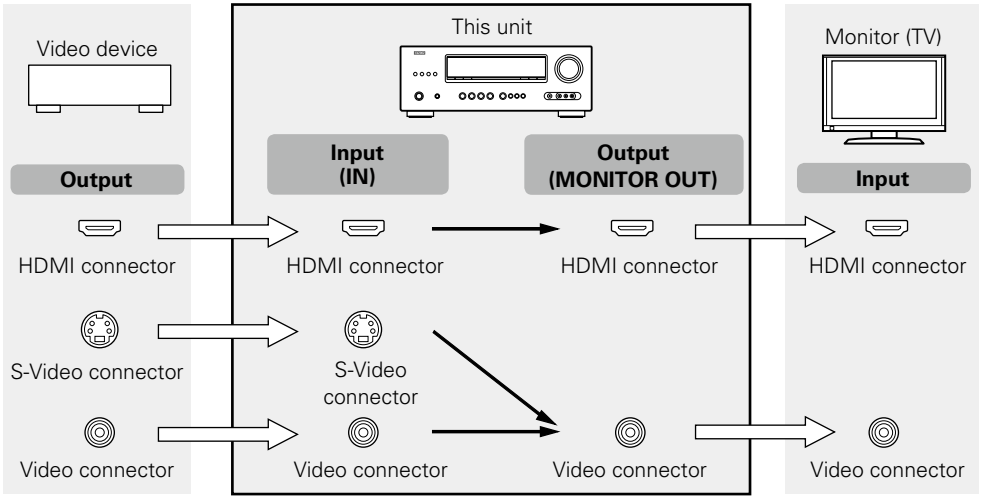
- **Make connections as follows before using this unit. Select an appropriate connection type according to the devices to be connected.**
- **You may need to make some settings on this unit depending on the connection method. Refer to each description for more information.**
- **Select the cables (sold separately) according to the devices being connected.**

NOTE

- Do not plug in the power cord until all connections have been completed.
- When making connections, also refer to the operating instructions of the other devices being connected.
- Be sure to connect the left and right channels properly (left with left, right with right).
- Do not bundle power cords together with connection cables. Doing so can result in noise.

Relationship between video signals and monitor output

【Flow of video signals】

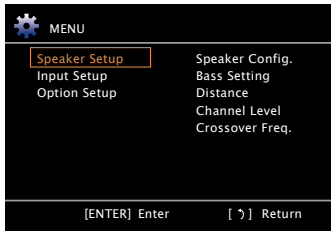


NOTE

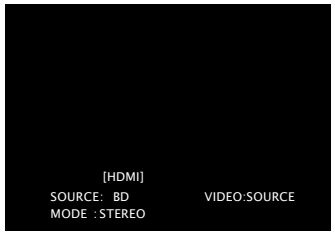
- HDMI signals cannot be converted into analog signals (☞page 55).
- Analog signals cannot be converted into HDMI signals (☞page 55).

Examples of screen display

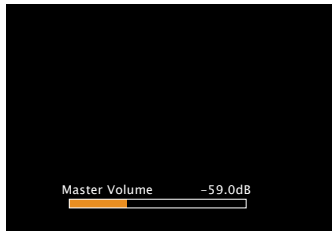
- Menu screen



- Status display screen
  When the input source is switched.



When the volume is adjusted.



Status display: The operating status appears briefly on the screen when the input source is switched or the volume is changed.

NOTE

- If you operate the menu while playing back 3D video content or computer's resolution (e.g. VGA), the playback video is replaced by the menu screen. The playback video is not displayed behind the menu screen.
- This unit does not show the status display while playing back 3D video content or computer's resolution (e.g. VGA).
- The menu screen and status display are displayed when this unit and a TV are connected by HDMI. Furthermore, the menu screen and status display are not displayed when this unit and a TV are connected by VIDEO.

Connecting an HDMI-compatible device

You can connect up to five HDMI-compatible devices (4-inputs/1-output) to the unit.

HDMI function

This unit supports the following HDMI functions:

- 3D
- Deep Color (☞page 56)
- "x.v.Color", sYCC601 color, Adobe RGB color, Adobe YCC601 color (☞page 56, 57)
- High definition digital audio format

Copyright protection system
In order to play back digital video and audio such as BD-Video or DVD-Video via HDMI connection, both this unit and TV or the player need to support the copyright protection system known as HDCP (High-bandwidth Digital Content Protection System). HDCP is copyright protection technology comprised of data encryption and authentication of the connected AV devices. This unit supports HDCP. • If a device that does not support HDCP is connected, video and audio are not output correctly. Read the owner's manual of your television or player for more information.

About HDMI cables

When a device supporting Deep Color is connected, use a cable compatible with "High Speed HDMI cable" or "High Speed HDMI cable with Ethernet".

About 3D function

This unit supports input and output of 3D (3 dimensional) video signals of HDMI 1.4a.
To play back 3D video, you need a TV and player that provide support for the HDMI1.4a 3D function and a pair of 3D glasses.

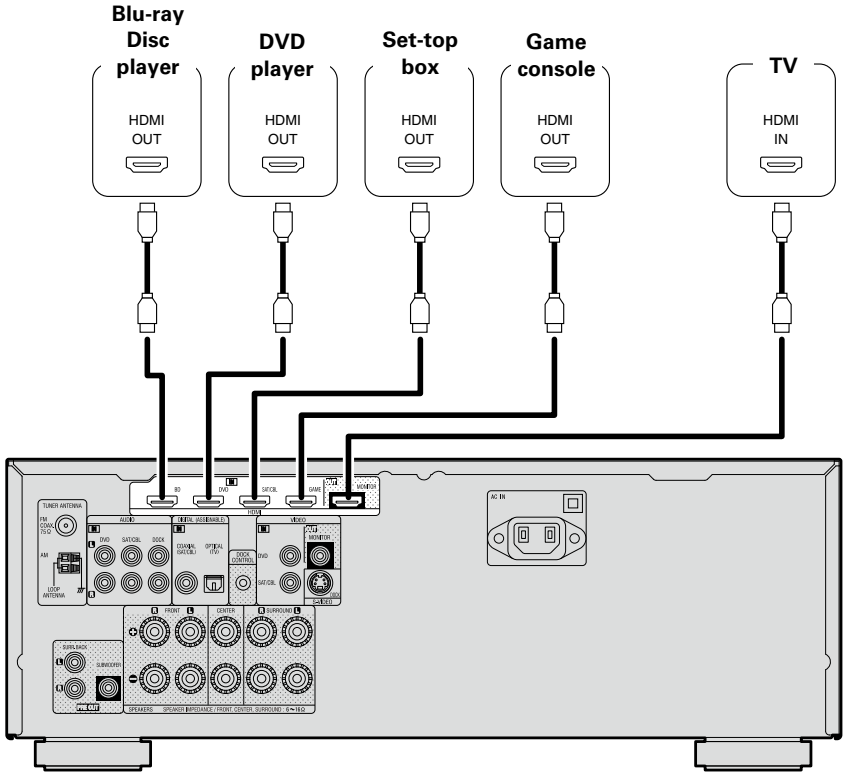
NOTE

- When playing back 3D video, refer to the instructions provided in the manual of your playback device together with this manual.
- If you operate the menu while playing back 3D video content, the playback video is replaced by the menu screen. The playback video is not displayed behind the menu screen.
- This unit does not show the status display while playing back 3D video content.
- If 3D video with no 3D information is input, the menu screen and status display on this unit are displayed over the playback video.
- If 2D video is converted to 3D video on the television, the menu screen and status display on this unit are not displayed correctly. To view the menu screen and status display on this unit correctly, turn the television setting that converts 2D video to 3D video off.

Cables used for connections

Audio and video cable (sold separately)	
HDMI cable	

- This interface allows transfer of digital video signals and digital audio signals over a single HDMI cable.



☞See overleaf

- When this unit is connected to other devices with HDMI cables, connect this unit and TV also with an HDMI cable.
- When connecting a device that supports Deep Color, please use a "High Speed HDMI cable" or "High Speed HDMI cable with Ethernet".
- Video signals are not output if the input video signals do not match the monitor's resolution. In this case, switch the Blu-ray Disc/DVD player's resolution to a resolution with which the monitor is compatible.
- When this unit and monitor are connected with an HDMI cable, if the monitor is not compatible with HDMI audio signal playback, only the video signals are output to the monitor.

NOTE

- The audio signal from the HDMI output connector (sampling frequency, number of channels, etc.) may be limited by the HDMI audio specifications of the connected device regarding permissible inputs.
- Only an HDMI signal is output from the HDMI MONITOR OUT connector.

Connecting to a device equipped with a DVI-D connector

When an HDMI/DVI conversion cable (sold separately) is used, the HDMI video signals are converted to DVI signals, allowing connection to a device equipped with a DVI-D connector.

NOTE

- No sound is output when connected to a device equipped with a DVI-D connector. Make separate audio connections.
- Signals cannot be output to DVI-D devices that do not support HDCP.
- Depending on the combination of devices, the video signals may not be output.

❑ Settings related to HDMI connections

Set as necessary. For details, see the respective reference pages.

Other Setup (☞page 37)

Make various other settings.

- HDMI Audio Out
- Display
- Auto Surround
- Setup Lock

NOTE

The audio signal input from the HDMI input connector can be output as an output signal from the HDMI output connector by setting the HDMI audio output destination to TV.
Audio signals input via the Analog/Coaxial/Optical input connectors cannot be output from the HDMI output connector.

Connecting a TV

- Select the connector to use and connect the device.
- For instructions on HDMI connections, see "Connecting an HDMI-compatible device" (☞page 5).

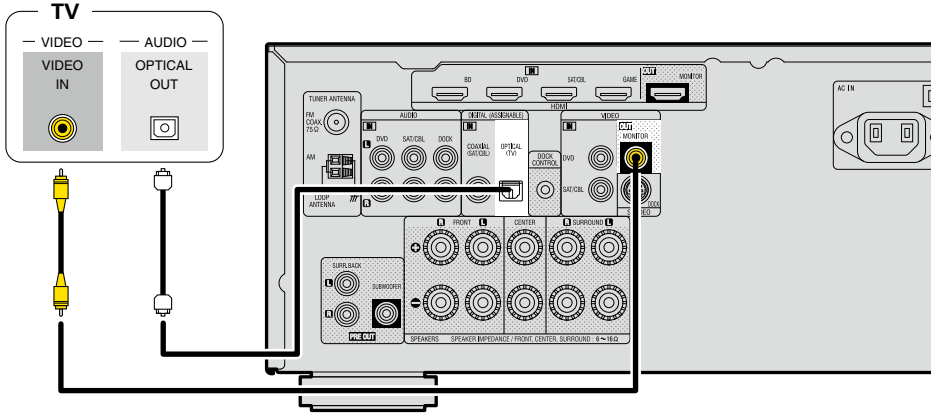
To listen to TV audio through this device, use the optical digital connection.

NOTE

If the VIDEO input connector and S-VIDEO input connector are to be used, be sure to connect the MONITOR output connector of the unit and the VIDEO input connector of the TV, using a video cable.

Cables used for connections

Video cable (sold separately)	
Video cable	
Audio cable (sold separately)	
Optical cable	



in Set as Necessary

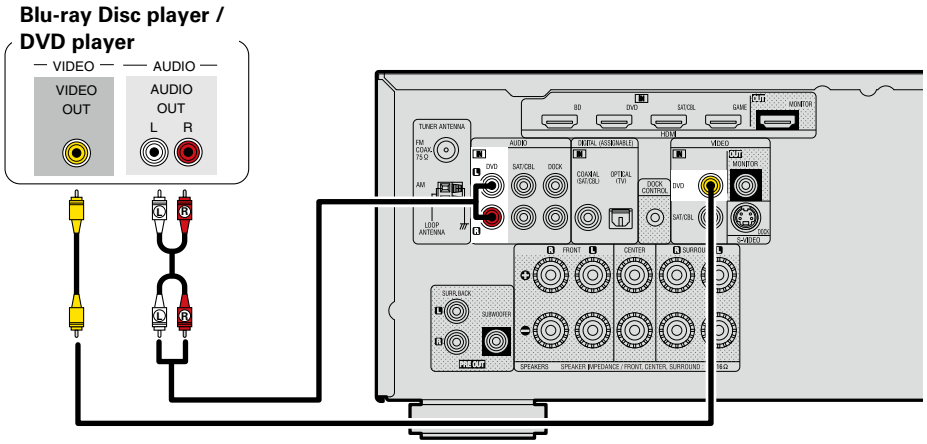
Set this to change the digital input connector to which the input source is assigned.
"Input Assign" (☞page 33)

Connecting a Blu-ray Disc player/DVD player

- You can enjoy video and audio from a Blu-ray Disc or DVD.
- Select the connector to use and connect the device.
- For instructions on HDMI connections, see "Connecting an HDMI-compatible device" (☞page 5).

Cables used for connections

Video cable (sold separately)	
Video cable	
Audio cables (sold separately)	
Audio cable	



in Set as Necessary

Set this to change the digital input connector to which the input source is assigned.
"Input Assign" (☞page 33)

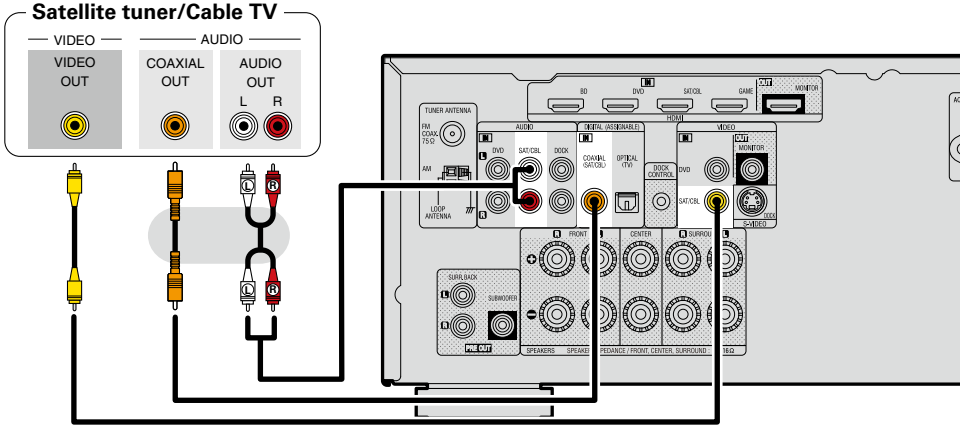
When you want to play back HD Audio (Dolby TrueHD, DTS-HD, Dolby Digital Plus, DTS Express) and Multi-channel PCM with this unit, use an HDMI connection (☞page 5 "Connecting an HDMI-compatible device").

Connecting a set-top box (Satellite tuner/Cable TV)

- You can watch satellite or cable TV.
- Select the connector to use and connect the device.
- For instructions on HDMI connections, see "Connecting an HDMI-compatible device" (☞page 5).

Cables used for connections

Video cable (sold separately)	
Video cable	
Audio cables (sold separately)	
Audio cable	
Coaxial digital cable	



in Set as Necessary

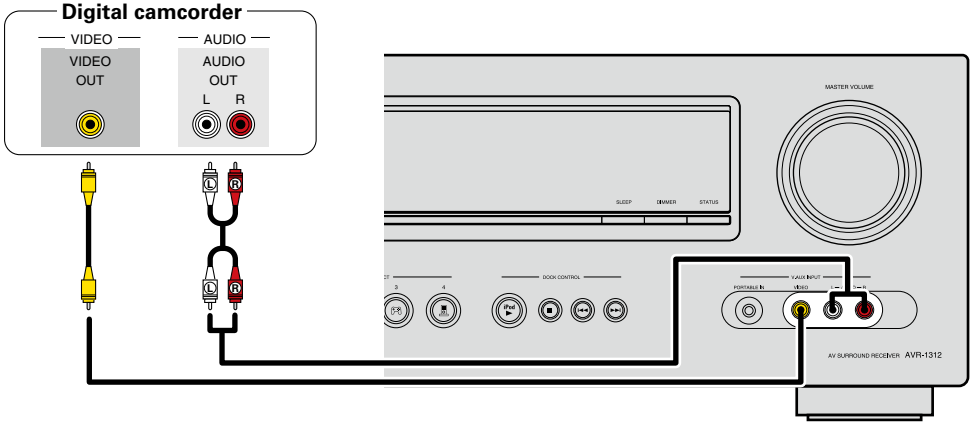
Set this to change the digital input connector to which the input source is assigned.
"Input Assign" (☞page 33)

Connecting a digital camcorder

- You can enjoy video and audio from a digital camcorder.
- For instructions on HDMI connections, see "Connecting an HDMI-compatible device" (☞page 5).

Cables used for connections

Video cable (sold separately)	
Video cable	
Audio cable (sold separately)	
Audio cable	



in Set as Necessary

Set this to change the digital input connector to which the input source is assigned.
"Input Assign" (☞page 33)

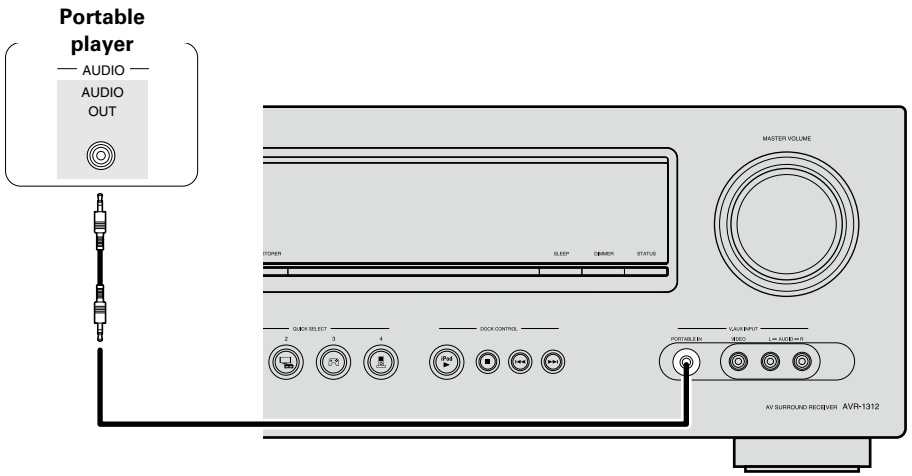
- If a portable player is connected via the PORTABLE IN jack on the front panel, playback from the portable player has priority.
- You can enjoy games by connecting a game machine via the V.AUX input connector. In this case, select the input source to "V.AUX".

Connecting a portable player

If a portable player is connected via the PORTABLE IN jack of the unit, music from the portable player can be played.

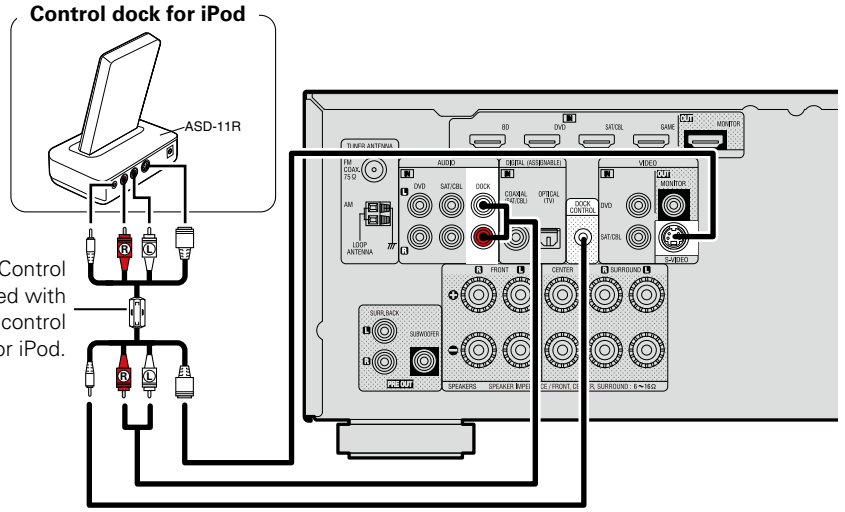
Cables used for connections

Audio cable (sold separately)	
Stereo mini plug cable	



Connecting a control dock for iPod

- Connect a control dock for iPod to the unit to enjoy video and music stored on an iPod.
- For a control dock for iPod, use ASD-11R, ASD-3N, ASD-3W, ASD-51N and ASD-51W made by DENON (sold separately).
- For instructions on the control dock for iPod settings, refer to the control dock for iPod's operating instructions.



in Set as Necessary

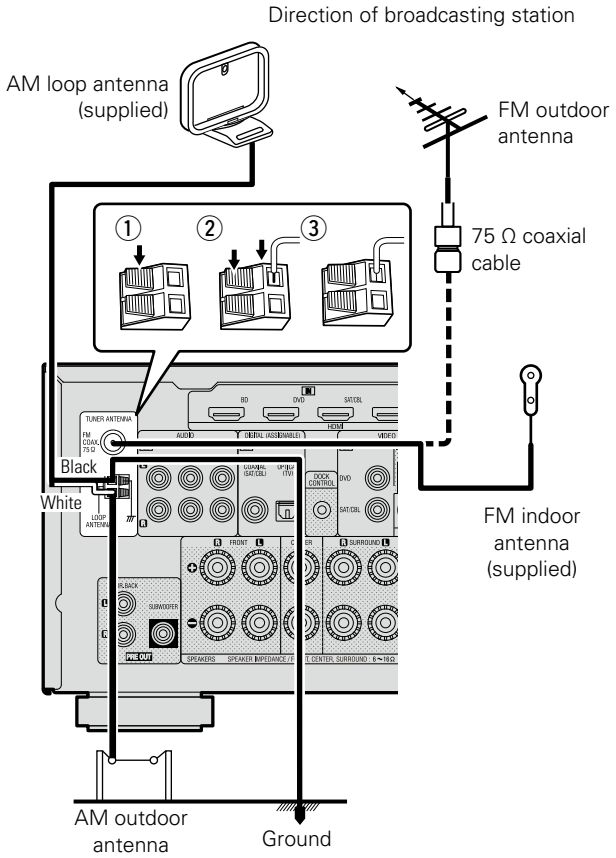
Set this to change the digital input connector to which the input source is assigned.
"Input Assign" (☞page 33)

NOTE

- When connecting an iPhone to this unit, keep the iPhone at least 20 cm away from this unit. If the iPhone is kept closer to this unit and a telephone call is received by the iPhone, noise may be output from this device.
- Video images on an iPod cannot be output from the HDMI MONITOR output connector of this unit. To play the video images on an iPod, in addition to using an HDMI connection, connect a TV to the VIDEO MONITOR output connector of this unit. Also, switch the input setting of the TV to "Video".

Connecting an antenna

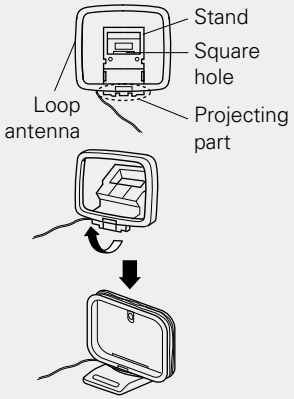
- Connect the FM antenna or AM loop antenna supplied with the unit to enjoy listening to radio broadcasts.
- After connecting the antenna and receiving a broadcast signal (☞page 17 "Listening to FM/AM broadcasts"), fix the antenna with tape in a position where the noise level becomes minimal.



❑ AM loop antenna assembly

1 **Put the stand section through the bottom of the loop antenna from the rear and bend it forward.**

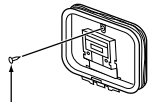
2 **Insert the projecting part into the square hole in the stand.**



❑ Using the AM loop antenna

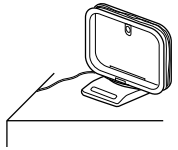
Suspending on a wall

Suspend directly on a wall without assembling.



Standing alone

Use the procedure shown above to assemble.



NOTE

- Do not connect two FM antennas simultaneously.
- Even if an external AM antenna is used, do not disconnect the AM loop antenna.
- Make sure the AM loop antenna lead terminals do not touch metal parts of the panel.
- If the signal has noise interference, connect the ground terminal (GND) to reduce noise.
- If you are unable to receive a good broadcast signal, we recommend installing an outdoor antenna. For details, inquire at the retail store where you purchased the unit.

Playback (Basic operation)

❑ **Selecting the input source** (☞page 11)
❑ **Adjusting the master volume** (☞page 11)
❑ **Turning off the sound temporarily** (☞page 11)

❑ **Playing a Blu-ray Disc player/DVD player** (☞page 12)
❑ **Playing a portable player** (☞page 12)
❑ **Playing an iPod** (☞page 13)
❑ **Tuning in radio stations** (☞page 17)

Selecting a listening mode (Surround mode) (☞page 21)

Playback (Advanced operation) (☞page 28)

Important information

Before starting playback, make the connections between the different devices and the settings on the unit.

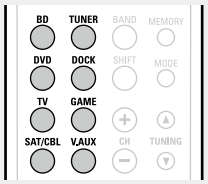
NOTE

Also refer to the operating instructions of the connected devices when playing them.

Selecting the input source

Press the input source select button (BD, DVD, TV, SAT/CBL, TUNER, DOCK, GAME, V.AUX) to be played back.

The desired input source can be selected directly.



You can also use the following operation to select an input source.

❑ Using the button on the main unit

Press **SOURCE ▲** or **SOURCE ▼**.

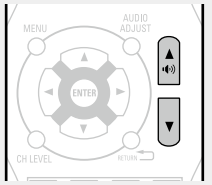
- Every time you press **SOURCE ▲** or **SOURCE ▼**, the input source switches in the following order.

DVD ⟷ BD ⟷ TUNER ⟷ DOCK
TV ⟷ SAT/CBL ⟷ GAME ⟷ V.AUX

- When **iPod ►** on the main unit is pressed, the input source of this unit is switched to "DOCK" and the connected iPod is automatically played (☞page 16 "iPod play function").

Adjusting the master volume

Use ▲▼ to adjust the volume.



❑ **When the "Volume Display" setting (☞page 36) is "Relative"**
[Adjustable range]
– – – **–80.5dB – 18.0dB**

❑ **When the "Volume Display" setting (☞page 36) is "Absolute"**
[Adjustable range] **0.0 – 99.0**

- The variable range differs according to the input signal and channel level setting.

You can also operate via the main unit. In this case, perform the following operations.
Turn **MASTER VOLUME** to adjust the volume.

Turning off the sound temporarily

Press 🔇.

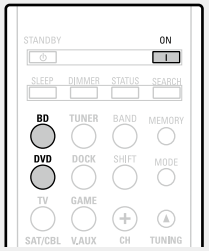
- The power indicator flashes green.
- "MUTE" indicator on the display lights.
- 🔇 appears on a TV screen.

- The sound is reduced to the level set at "Mute Level" (☞page 36).
- To cancel, press 🔇 again. Muting can also be canceled by adjusting the master volume.

Playing a Blu-ray Disc player/DVD player

The following describes the procedure for playing Blu-ray Disc player/DVD player.

1 Prepare for playback.
① Turn on the power of the TV, subwoofer and player.
② Change the TV input to the input of this unit.
③ Load the disc in the player.



2 Press ON to turn on power to the unit.

3 Press BD or DVD to switch an input source for a player used for playback.

4 Play the device connected to this unit.
Make the necessary settings on the player (language setting, subtitles setting, etc.) beforehand.

Playing a portable player

The following describes the procedure for playing portable player.

1 Connect the portable player to this unit (☞page 9 "Connecting a portable player").

2 Press ON to turn on power to the unit.

3 Press V.AUX to switch the input source to "V.AUX".

4 Play the component connected to this unit.

Playing an iPod

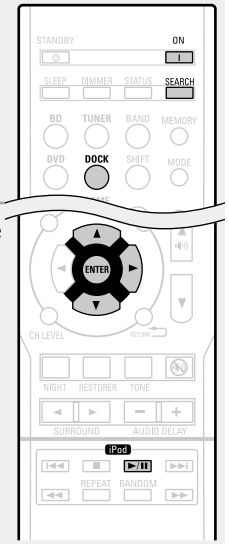
If you use a separately sold DENON control dock for iPod (ASD-11R, ASD-3N, ASD-3W, ASD-51N or ASD-51W), you will be able to play back videos, photos, music, and other content on the iPod.
The playback method differs depending on the control dock for iPod to be used and the files to be played back (music or video).

❑ **Listening to music on an iPod** (☞page 13)
❑ **Viewing videos on an iPod**
- **Playback in Browse mode** (☞page 14)
  You can play back the video files on an iPod.
- **Playback in Remode mode** (☞page 15)
  You can play back the video and photo files on an iPod.

Listening to music on an iPod

1 Prepare for playback.

① Connect the DENON control dock for iPod to this unit (☞page 9 "Connecting a control dock for iPod").
② Set the iPod in the DENON control dock for iPod.

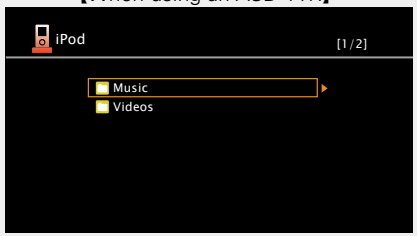


2 Press ON to turn on power to the unit.

3 Press DOCK to switch the input source to "DOCK".

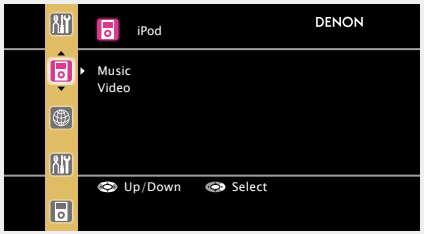
- If "Browse mode" is selected in step 4, the following screen is displayed on a TV screen.

【When using an ASD-11R】

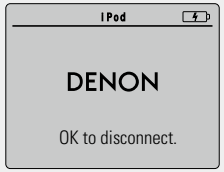


【When using an ASD-3N, ASD-3W, ASD-51N and ASD-51W】

- If you connect a TV to the VIDEO MONITOR output connector of this unit and then switch the input setting of the TV to "Video", the following screen is displayed on the TV.



- In "Browse mode", the iPod display is as shown at right.



NOTE

If the connections screen is not displayed, the iPod may not be properly connected. Reconnect it.

4 Press SEARCH and hold it down for 2 seconds or more to select the display mode.

- There are two modes for displaying the contents recorded on the iPod.

Browse mode Display iPod information on the TV screen.
- English letters, numbers and certain symbols are displayed. Incompatible characters are displayed as "." (period).

Remote mode Display iPod information on the iPod screen.
- "Dock Remote" is displayed on the display of this unit.

Display mode		Browse mode	Remote mode
Playable files	Music file	✓	✓
	Photo file		✓ *2
	Video file	✓*1	✓ *2
Active buttons	Remote control unit (This unit)	✓	✓
	iPod		✓

*1 When using an ASD-11R DENON control dock for iPod.
*2 Video may not be output, depending on the combination of ASD-11R, ASD-3N, ASD-3W, ASD-51N or ASD-51W DENON control dock for iPod and iPod.

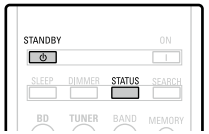
5 Use △▽ to select the item, then press ENTER or ▷ to select the file to be played.

6 Press ENTER, ▷ or ►/II.
Playback starts.

☞See overleaf

- To play back compressed audio with extended bass or treble reproduction, we recommend playback in RESTORER mode (☞page 41). The default setting is "ON".
- In Browse mode, press **STATUS** during playback to check the title name, artist name and album name on the display of this unit.

NOTE



- Press **STANDBY** and set this unit's power to the standby mode before disconnecting the iPod. You can also switch the input source to other than "DOCK" and then disconnect the iPod.
- Depending on the type of iPod and the software version, some functions may not operate.
- Note that DENON will accept no responsibility whatsoever for any problems arising with the data on an iPod when using this unit in conjunction with the iPod.

Viewing videos on an iPod

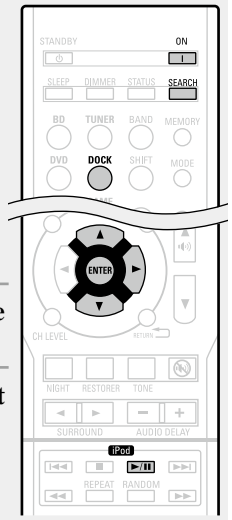
❑ Playback in Browse mode

When an iPod equipped with a video function is connected to a DENON ASD-11R, ASD-3N, ASD-3W, ASD-51N and ASD-51W control dock for iPod, image files can be played in the Browse mode.

When using an ASD-11R

1 Prepare for playback.

① Connect the DENON control dock for iPod to this unit (☞page 9 "Connecting a control dock for iPod").
② Set the iPod in the DENON control dock for iPod.
③ Connect the TV to the VIDEO MONITOR output connector of this unit.



2 Press ON to turn on power to the unit.

3 Press DOCK to switch the input source to "DOCK".

4 Press SEARCH and hold it down for 2 seconds or more to select the "Browse mode".

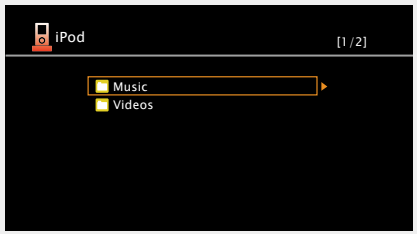
- There are two modes for displaying the contents recorded on the iPod.

Browse mode Display iPod information on the TV screen.

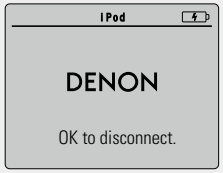
- English letters, numbers and certain symbols are displayed. Incompatible characters are displayed as "." (period).

Remote mode Display iPod information on the iPod screen.

- "Dock Remote" is displayed on the display of this unit.



- In "Browse mode", the iPod display is as shown at right.



NOTE

If the connections screen is not displayed, the iPod may not be properly connected. Reconnect it.

5 Use △▽ to select "Videos", then press ENTER or ▷.

6 Use △▽ to select the search item or folder, then press ENTER or ▷.

7 Use △▽ to select the video file, then press ENTER, ▷ or ►/II.

Playback starts.

8 Switch the input setting of the TV to "Video".

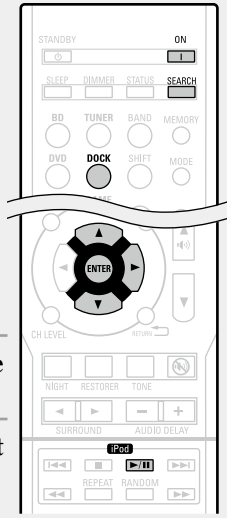
The video file is displayed on the TV screen.

☞See overleaf

When using an ASD-3N, ASD-3W, ASD-51N or ASD-51W

1 Prepare for playback.

① Connect the DENON control dock for iPod to this unit (☞page 9 "Connecting a control dock for iPod").
② Set the iPod in the DENON control dock for iPod.
③ Connect the TV to the VIDEO MONITOR output connector of this unit.
④ Switch the input setting of the TV to "Video".



2 Press ON to turn on power to the unit.

3 Press DOCK to switch the input source to "DOCK".

4 Press SEARCH and hold it down for 2 seconds or more to select the "Browse mode".

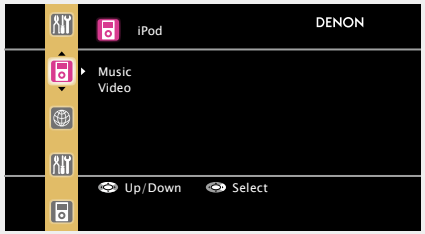
- There are two modes for displaying the contents recorded on the iPod.

Browse mode Display iPod information on the TV screen.

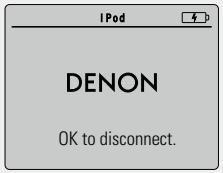
- English letters, numbers and certain symbols are displayed. Incompatible characters are displayed as "." (period).

Remote mode Display iPod information on the iPod screen.

- "Dock Remote" is displayed on the display of this unit.



- In "Browse mode", the iPod display is as shown at right.



NOTE

If the connections screen is not displayed, the iPod may not be properly connected. Reconnect it.

5 Use △▽ to select "Videos", then press ENTER or ▷.

6 Use △▽ to select the search item or folder, then press ENTER or ▷.

7 Use △▽ to select the video file, then press ENTER, ▷ or ►/II.

Playback starts.

❑ Playback in Remote mode

This unit can play back on a TV screen photos and data stored on an iPod equipped with a slide show or video function.

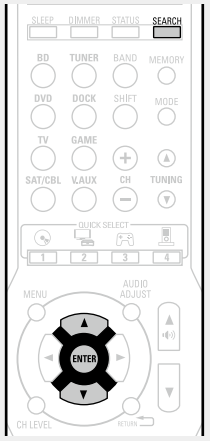
1 Press and hold SEARCH to set the Remote mode.

"Dock Remote" is displayed on the display of this unit.

2 Watching the iPod's screen, use △▽ to select "Photos" or "Videos".

- Depending on the iPod model, it may be necessary to operate the iPod unit directly.

3 Press ENTER until the image you want to view is displayed.



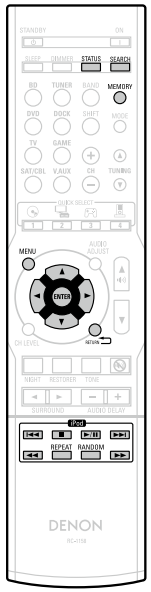
"TV Out" at the iPod's "Slide show Settings" or "Video Settings" must be set to "On" in order to display the iPod's photo data or videos on the monitor. For details, see the iPod's operating instructions.

NOTE

Video may not be output, depending on the combination of ASD-11R, ASD-3N, ASD-3W, ASD-51N or ASD-51W and iPod.

☞See overleaf

❑ iPod operation



Operation buttons	Function
STATUS	Check of title name/artist name/ album name (in Browse mode)
SEARCH (Press and release)	Page search mode *1
SEARCH (Press and hold)	Browse / Remote mode switching
MEMORY	Store memory *2
MENU	Amp menu
△▽◁▷	Cursor operation
ENTER (Press and release)	Enter / Pause
ENTER (Press and hold)	Stop
RETURN ⮌	Return
I◀◀ ▶▶I	Auto search (cue)
■	Stop
▶/II	Playback / Pause
◀◀ ▶▶ (Press and hold)	Manual search (fast-reverse/fast-forward)
REPEAT	Repeat playback
RANDOM	Shuffling playback

- **Repeat playback** (☞page 35 “Repeat”)
- **Shuffling playback** (☞page 35 “Shuffle”)

*1 When the menu screen is displayed, press **SEARCH**, then press ◁ (previous page) or ▷ (next page).
To cancel, press ▽.

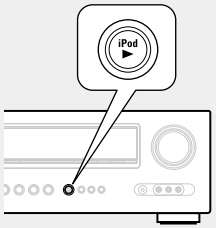
*2 This functions when an ASD-3N, ASD-3W, ASD-51N or ASD-51W is used.

iPod play function

If **iPod ▶** is pressed when a control dock for iPod is connected, the iPod starts playback.

Press iPod ▶.

- This unit’s input source switches to “DOCK”.
- iPod playback starts.
- You can pause the playback of a song by pressing **iPod ▶** during iPod playback.



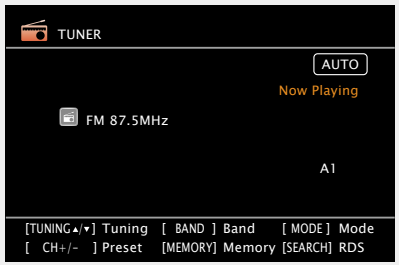
Listening to FM/AM broadcasts

1 **Press TUNER to switch the input source to "TUNER".**

2 **Press BAND to select "FM" or "AM".**

FM When listening to an FM broadcast.

AM When listening to an AM broadcast.



3 **Tune in the desired broadcast station.**

① **To tune in automatically (Auto tuning)**
Press **MODE** to light the "AUTO" indicator on the display, then use **TUNING ▲** or **TUNING ▼** to select the station you want to hear.

② **To tune in manually (Manual tuning)**
Press **MODE** to turn off the display's "AUTO" indicator, then use **TUNING ▲** or **TUNING ▼** to select the station you want to hear.

- If the desired station cannot be tuned in with auto tuning, tune it in manually.
- When tuning in stations manually, press and hold **TUNING ▲** or **TUNING ▼** to change frequencies continuously.

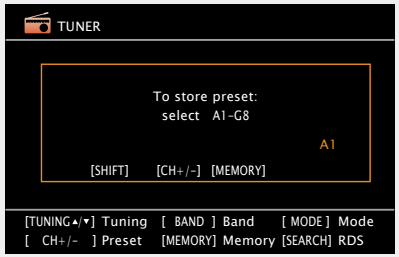
❑ Presetting radio stations (Manual preset)

Your favorite broadcast stations can be preset so that you can tune them in easily. Up to 56 stations can be preset.

- **Stations can be preset automatically at "Auto Preset" (☞page 34).** If "Auto Preset" is performed after performing "Manual preset", the "Manual preset" settings will be overwritten.

1 **Tune in the broadcast station you want to preset.**

2 **Press MEMORY.**



3 **Press SHIFT to select the block (A to G) in which the channel (1 to 8 per a block) is to be preset, then press CH + or CH – to select the preset number.**

4 **Press MEMORY again to complete the setting.**

- To preset other stations, repeat steps 1 to 4.

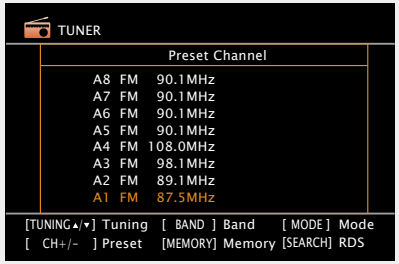
Default settings

Block (A – G) and Channel (1 – 8)	Default Settings
A1 – A8	87.5 / 89.1 / 98.1 / 108.0 / 90.1 / 90.1 / 90.1 / 90.1 MHz
B1 – B8	522 / 603 / 999 / 1404 / 1611 kHz, 90.1 / 90.1 / 90.1 MHz
C1 – C8	90.1 MHz
D1 – D8	90.1 MHz
E1 – E8	90.1 MHz
F1 – F8	90.1 MHz
G1 – G8	90.1 MHz

☞See overleaf

❑ Listening to preset stations

1 **Press SHIFT to select the memory block (A to G).**



2 **Press CH + or CH – to select the desired preset channel.**

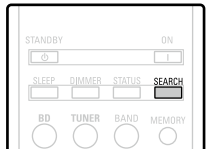
You can also operate via the main unit. In this case, perform the following operations.
Press **TUNER PRESET CH +** or **TUNER PRESET CH –** to select a preset radio station.

RDS (Radio Data System)

Note that the RDS function only works when receiving RDS compatible stations.
RDS (works only on the FM band) is a broadcasting service which allows a station to send additional information along with the regular radio program signal.

NOTE

The operations described as follows using **SEARCH** will not function in areas in which there are no RDS broadcasts.

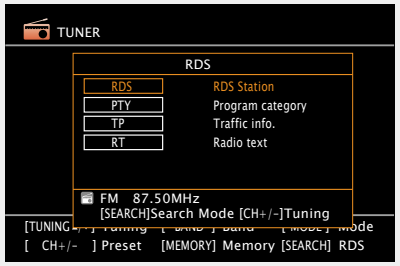


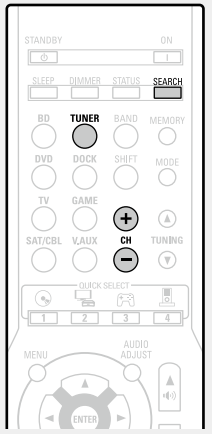
❑ RDS search

Use this function to automatically tune to FM stations that provide the RDS service.

1 **Press TUNER to switch the input source to "TUNER".**

2 **Press SEARCH to select "RDS".**





3 **Press CH + or CH –.**
The search for RDS stations begins automatically.

- If no RDS stations are found with the above operation, all the reception bands are searched.
- When a broadcast station is found, that station's name appears on the display.
- If no RDS station is found when all the frequencies have been searched, "NO RDS" is displayed.

PTY (Program Type)

PTY identifies the type of RDS program.
The program types and their displays are as follows:

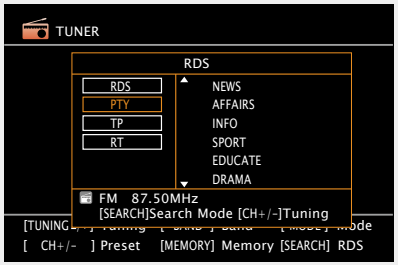
NEWS	News	WEATHER	Weather
AFFAIRS	Current Affairs	FINANCE	Finance
INFO	Information	CHILDREN	Children's program
SPORT	Sports		
EDUCATE	Education	SOCIAL	Social Affairs
DRAMA	Drama	RELIGION	Religion
CULTURE	Culture	PHONE IN	Phone In
SCIENCE	Science	TRAVEL	Travel
VARIED	Varied	LEISURE	Leisure
POP M	Pop Music	JAZZ	Jazz Music
ROCK M	Rock Music	COUNTRY	Country Music
EASY M	Easy Listening Music	NATION M	National Music
		OLDIES	Oldies Music
LIGHT M	Light Classical	FOLK M	Folk Music
CLASSICS	Serious Classical	DOCUMENT	Documentary
OTHER M	Other Music		

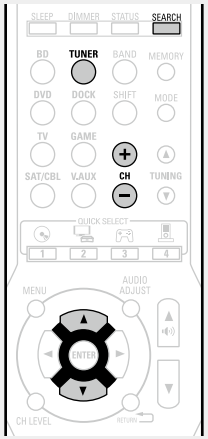
❑ PTY search

Use this function to find RDS stations broadcasting a designated program type (PTY).

1 **Press TUNER to switch the input source to "TUNER".**

2 **Press SEARCH to select "PTY".**





3 **Watching the display, press △▽ to call out the desired program type.**

4 **Press CH + or CH –.**
PTY search begins automatically.

- If there is no station broadcasting the designated program type with the above operation, all the reception bands are searched.
- The station name is displayed on the display after searching stops.
- If no station broadcasting the designated program type is found when all the frequencies have been searched, "NO PROGRAMME" is displayed.

TP (Traffic Program)

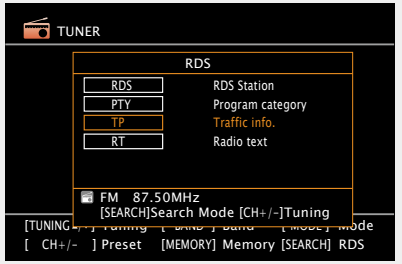
TP identifies programs that carry traffic announcements.
This allows you to easily find out the latest traffic conditions in your area before leaving home.

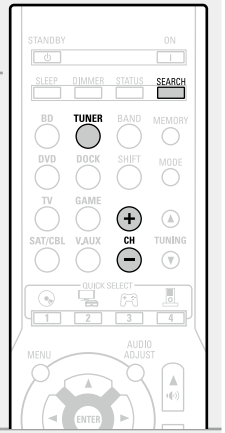
❑ TP search

Use this function to find RDS stations broadcasting traffic programs (TP stations).

1 **Press TUNER to switch the input source to "TUNER".**

2 **Press SEARCH to select "TP".**





3 **Press CH + or CH –.**
TP search begins automatically.

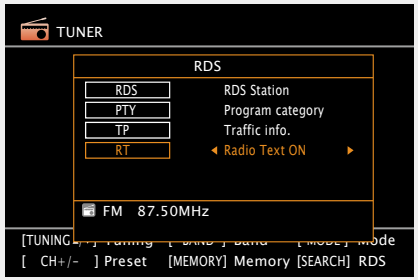
- If no TP station is found with the above operation, all the reception bands are searched.
- The station name is displayed on the display after searching stops.
- If no other TP station is found when all the frequencies have been searched, "NO PROGRAMME" is displayed.

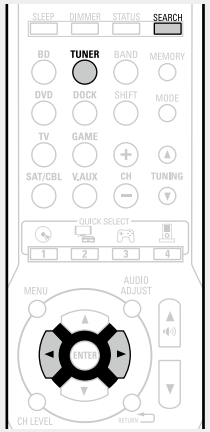
RT (Radio Text)

RT allows RDS stations to send text messages that appear on the display.
"RT" appears on the display when radio text data is received.

1 **Press TUNER to switch the input source to "TUNER".**

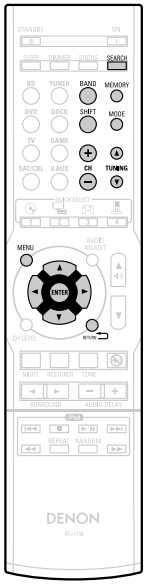
2 **Press SEARCH to select "RT".**





- While receiving an RDS broadcast station, the text data broadcast from the station is displayed.
- To turn the display off, press ◁ ▷.
- If no text data is being broadcast, "NO TEXT DATA" is displayed.

❑ Tuner (FM/AM) operation



Operation buttons	Function
SEARCH	RDS search
BAND	FM/AM switching
MEMORY	Preset memory registration
SHIFT	Preset channel block selection
MODE	Switch search modes
CH +, –	Preset channel selection
TUNING ▲▼	Tuning (up/down)
MENU	Amp menu
△▽◁ ▷	Cursor operation
ENTER	Enter
RETURN ⮌	Return

Selecting a listening mode (Surround mode)

This unit can play input audio signals in multi-channel surround mode or in stereo mode.
Select a listening mode suitable for the playback contents (cinema, music, etc.) or according to your liking.

Listening Mode

Input audio signal	Playback	Listening mode	
2-channel Multi channel	Surround	Standard playback (☞page 22)	For 2-channel signal input: • Surround-channel signals are created and played with surround playback. For multichannel signal input: • The surround signal recorded in source is played as surround playback. (The sound is played according to the settings of the speaker size in 📖 page 5 "Speaker Config.".) • Surround-back-channel signals that are not recorded in source can be created.
2-channel Multi channel	Surround	Multi channel stereo playback (☞page 23)	This mode is for enjoying stereo sound from all speakers.
2-channel Multi channel	Surround	Virtual playback (☞page 23)	This mode is for enjoying surround effects using only the front speakers or headphones.
2-channel Multi channel	Stereo	Stereo playback (☞page 23)	• If multichannel signals are input, they are mixed down to 2-channel audio and are played. • Subwoofer signals are also output.
2-channel Multi channel	Stereo Surround	Direct playback (☞page 23)	Sound recorded in source is played as is. • Surround back signals are not created. • In this mode, the following items cannot be adjusted. • Tone (☞page 40) • RESTORER (☞page 41)

- Some listening modes cannot be selected, depending on the audio format or number of channels of the input signal. For details, see "Types of input signals, and corresponding surround modes" (☞page 53).
- Adjust the sound field effect with the menu "Audio Adjust" (☞page 38) to enjoy your favorite sound mode.
- Buttons on the remote control unit can be used for operations.
  Press **SURROUND ◄** or **SURROUND ►** and the modes are switched as shown below.

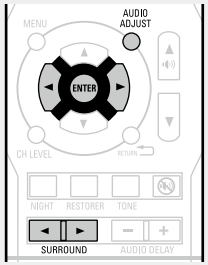
DIRECT ◄► STEREO ◄► PLII (or PLIIx) * ◄►
VIRTUAL * ◄► MULTI CH STEREO * ◄► DTS NEO:6 * ◄►

* The display varies depending on the audio format or the number of channels of input signals.

Standard playback

❑ Surround playback of 2-channel sources

1 **Playing the source (☞page 12 – 17).**



2 **Press SURROUND ◄ or SURROUND ► to select the surround decoder to play back multichannel sound.**
Select the surround mode while viewing the display on the TV screen.

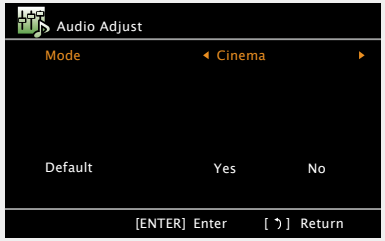
- Which decoder can be selected depends on the settings of 📖 page 5 "Speaker Config.".

DOLBY PLIIx *	This mode is for 7.1-channel surround playback using the surround back speakers. • "PLIIx Cinema", "PLIIx Music"or "PLIIx Game" is displayed.
DOLBY PLII	This mode is for 5.1-channel surround playback. Select this mode if no surround back speaker is to be used. • "PLII Cinema", "PLII Music", "PLII Game" or "Pro Logic" is displayed.
DTS NEO:6	This mode is for 7.1-channel or 5.1-channel surround playback using the surround back speakers. • "DTS NEO:6 Cinema" or "DTS NEO:6 Music" is displayed.

* This can be selected when "Speaker Config." – "Surround Back" (📖 page 5 "Speaker Config.") is not set to "None".

3 **Press AUDIO ADJUST and then press ENTER.**

4 **Use ◁ ▷ to select the mode according to the content to be played and then press ENTER.**



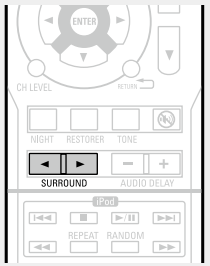
Cinema	This mode is suited for movie sources.
Music	This mode is suited for music sources. More sound is sent to the front speakers than in "Cinema" mode.
Game	This mode is suited for games.
Pro Logic *	This mode is suitable for playback of 2-channel sources recorded with Dolby Pro Logic.

* This can be selected when "Speaker Config." – "Surround Back" (📖 page 5 "Speaker Config.") is not set to "None".

5 **Press AUDIO ADJUST.**
The menu display disappears.

❑ Surround playback of multi-channel sources (Dolby Digital, DTS etc.)

1 **Playing the source (☞page 12 – 17).**



2 **Press SURROUND ◄ or SURROUND ► to select the surround decoder to play back multichannel sound.**
Select the surround mode while viewing the display on the TV screen.

- Which decoder can be selected depends on the input signal, the settings of 📖 page 5 "Speaker Config.".

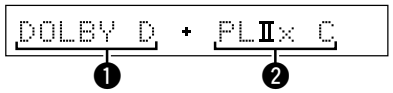
Displaying the currently playing surround mode

Input signal	Surround mode
DOLBY DIGITAL (other than 2ch) / DOLBY DIGITAL EX	DOLBY DIGITAL
	DOLBY DIGITAL EX
	DOLBY DIGITAL + PLIIx CINEMA
	DOLBY DIGITAL + PLIIx MUSIC
DOLBY DIGITAL Plus	DOLBY DIGITAL Plus
DOLBY TrueHD	DOLBY TrueHD
DTS (5.1ch) / DTS-ES Discrete 6.1 / DTS-ES Matrix 6.1 / DTS 96/24	DTS SURROUND
	DTS + PLIIx CINEMA
	DTS + PLIIx MUSIC
	DTS + NEO:6
	DTS ES MTRX6.1*1
	DTS ES DSCRT6.1*2
	DTS 96/24*3
DTS-HD	DTS-HD HI RES
	DTS-HD MSTR
	DTS Express
PCM (multi ch)	MULTI CH IN
	MULTI IN + PLIIx CINEMA
	MULTI IN + PLIIx MUSIC
	MULTI CH IN 7.1

*1 This is displayed when the input signal is "DTS-ES Matrix 6.1" and this unit's "AFDM" (☞page 39) setting is "ON".
*2 This is displayed when the input signal is "DTS-ES Discrete 6.1".
*3 This is displayed when the input signal is "DTS 96/24".

☞See overleaf

【Views on the display】



❶ Shows a decoder to be used.
- A DOLBY DIGITAL decoder is displayed as "DOLBY D".
- A DOLBY DIGITAL Plus decoder is displayed as "DOLBY DIGITAL +".

❷ Shows a decoder that creates sound output from the surround back speakers.

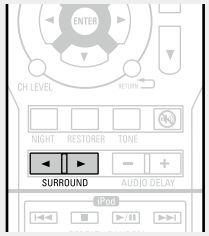
For an input signal that can be reproduced in each surround mode, see "Surround modes and surround parameters" (☞page 51).

Multi channel stereo playback

This mode is for enjoying stereo sound from all speakers.

1 **Playing the source (☞page 12 – 17).**

2 **Press SURROUND ◄ or SURROUND ► to select "MULTI CH STEREO".**
Multi channel stereo playback begins.



NOTE

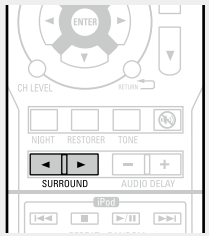
When the input signal is Dolby TrueHD, Dolby Digital Plus, DTS-HD or DTS Express, you cannot select multi channel stereo mode.

Virtual playback

This mode is for enjoying surround effects using only the front speakers or headphones.

1 **Playing the source (☞page 12 – 17).**

2 **Press SURROUND ◄ or SURROUND ► to select "VIRTUAL".**
Virtual playback begins.



NOTE

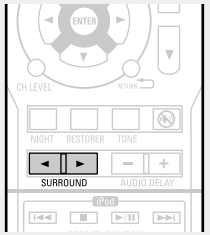
When the input signal is Dolby TrueHD, Dolby Digital Plus, DTS-HD or DTS Express, you cannot select virtual mode.

Stereo playback

This is the mode for playing in stereo. The tone can be adjusted.
- Sound is output from the front left and right speakers and subwoofer.
- If multichannel signals are input, they are mixed down to 2-channel audio and are played.

1 **Playing the source (☞page 12 – 17).**

2 **Press SURROUND ◄ or SURROUND ► to select "STEREO".**
Stereo playback begins.

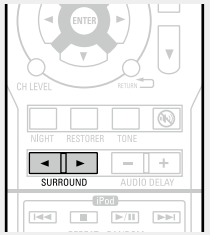


Direct playback

Sound recorded in source is played as is.
- Surround back signals are not created.
- In this mode, the following items cannot be adjusted.
  - Tone (☞page 40)
  - RESTORER (☞page 41)

1 **Playing the source (☞page 12 – 17).**

2 **Press SURROUND ◄ or SURROUND ► to select "DIRECT".**
Direct playback begins.



Advanced version

Here, we explain functions and operations that let you make better use of this unit.

- Speaker installation/connection (Advanced connection) ☞page 25
- Playback (Advanced operation) ☞page 28
- How to make detailed settings ☞page 30
- Other settings ☞page 43

Speaker installation/connection (Advanced connection)

Here we describe the installation, connection and setup methods for speakers other than 5.1-channel speakers. For the installation, connection and setup methods for 5.1-channel speakers, see page 2 "Connecting the speakers".

Procedure for speaker settings

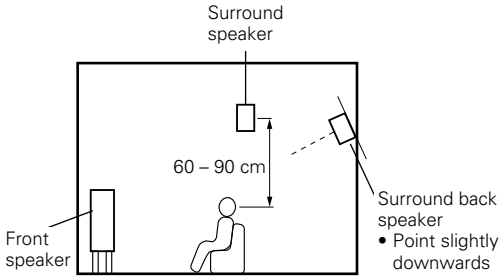
Install

↓

Connect (page 26)

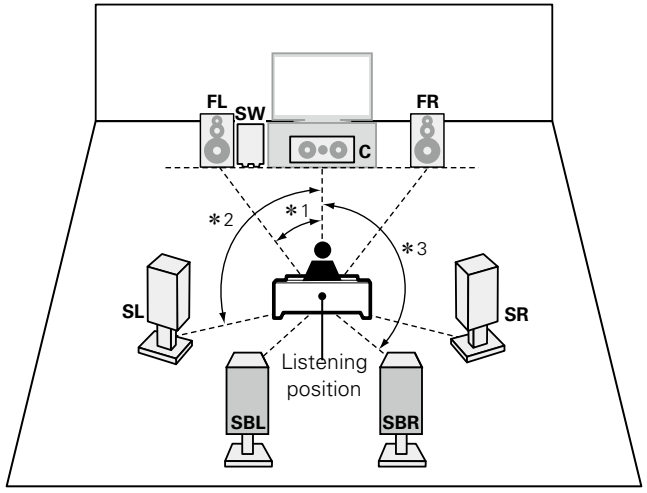
Install

Install the surround back speakers in a position 60 to 90 cm higher than ear level.



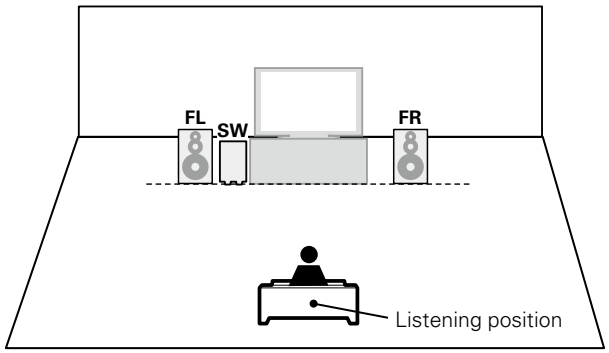
【Viewed from the side】

When 7.1ch (Surround back speaker) installed



∗1 22˚ – 30˚ ∗2 90˚ – 110˚ ∗3 135˚ – 150˚

When 2.1ch speakers installed



【Speaker abbreviations】

FL	Front speaker (L)	**SL**	Surround speaker (L)
FR	Front speaker (R)	**SR**	Surround speaker (R)
C	Center speaker	**SBL**	Surround back speaker (L)
SW	Subwoofer	**SBR**	Surround back speaker (R)

- For the method of connecting 5.1-channel speakers, see page 2 “Connecting the speakers”.
- For the method of connecting the TV, see page 4 “Connect this unit to the television using an HDMI cable (sold separately)”.

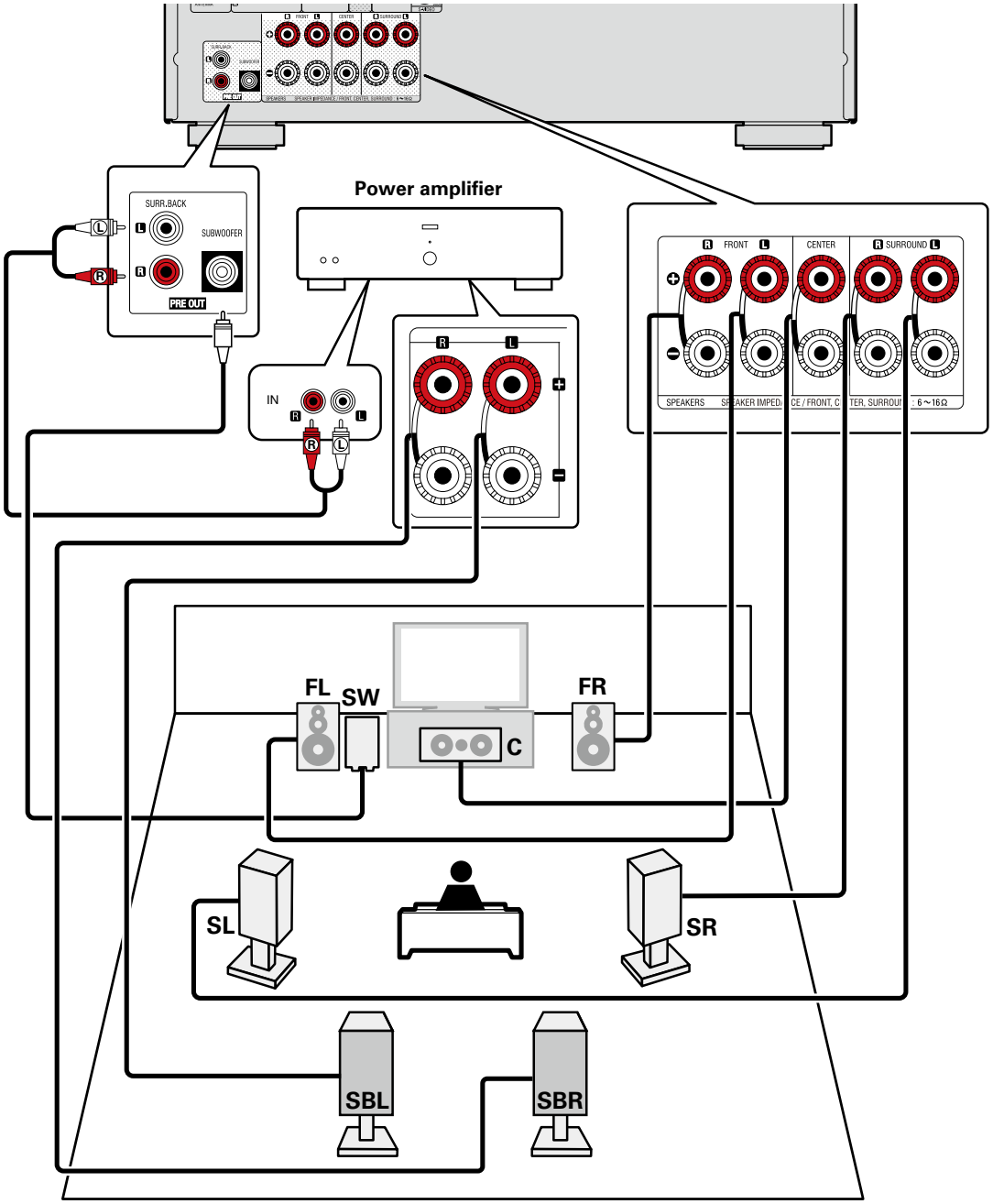
7.1-channel (Surround back speaker) connection

- The illustration on the right shows a connection example for performing 7.1-channel playback using the surround back speakers.
- A power amplifier (sold separately) is required for this connection.

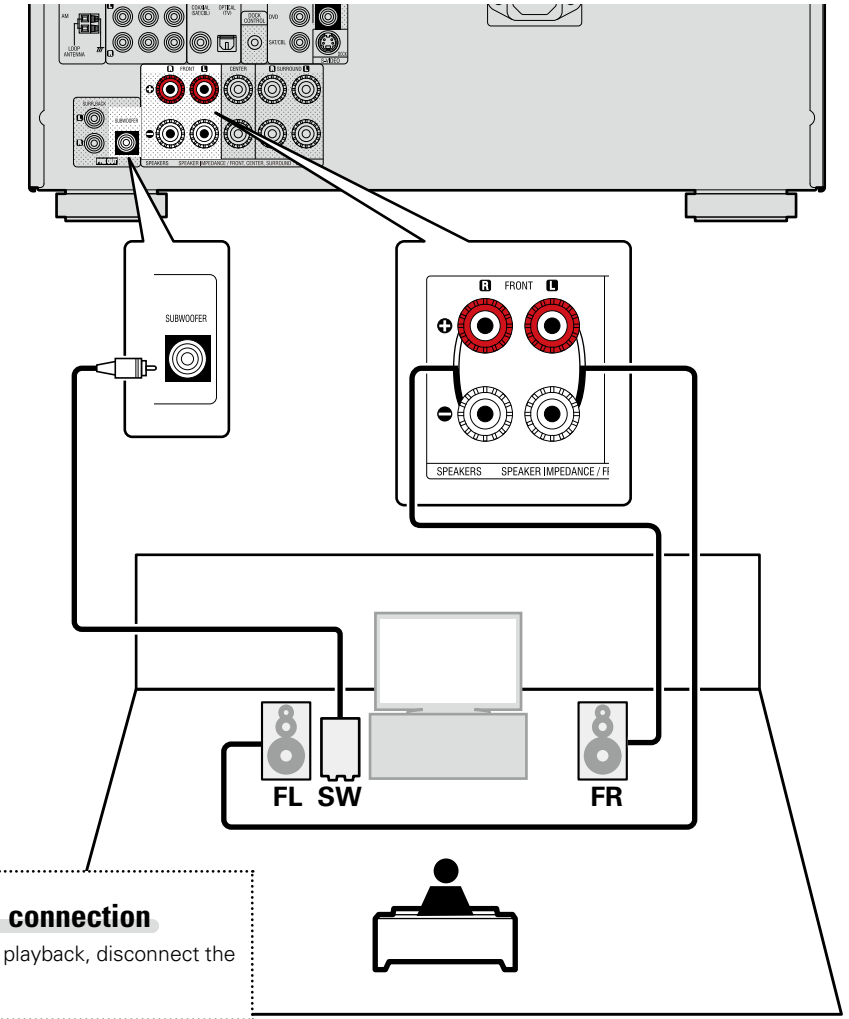
NOTE

- **For speaker cable connections, see page 3 “Preparation”.**
- **Connect so that the speaker cable core wires do not protrude from the speaker terminal. The protection circuit may be activated if the core wires touch the rear panel or if the + and – sides touch each other (page 57 “Protection Circuit”).**
- **Never touch the speaker terminals while the power supply is connected. Doing so could result in electric shock.**
- **Use speakers with the speaker impedances shown below.**

Speaker terminals	Speaker impedance
FRONT	6 – 16 Ω
CENTER	
SURROUND	



2.1-channel / 2-channel connection



2-channel connection

For 2-channel playback, disconnect the subwoofers.

NOTE

- **For speaker cable connections, see page 3 “Preparation”.**
- **For speaker impedance, see page 26.**

Playback (Basic operation) (☞page 11)

Selecting a listening mode (Surround mode) (☞page 21)

❑ **Adjusting the volume of the speakers** (☞page 28)
❑ **Sleep timer function** (☞page 29)
❑ **Quick select function** (☞page 29)
❑ **Various memory functions** (☞page 29)

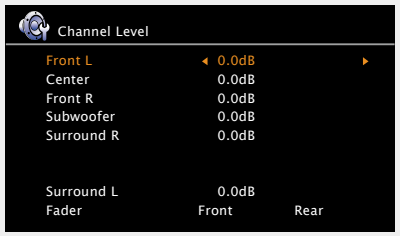
Convenient functions

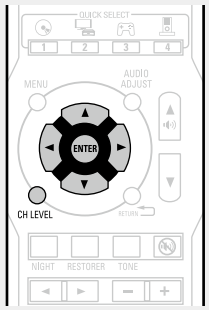
Adjusting the volume of the speakers

You can adjust the channel level either according to the playback sources or to suit your taste, as described below.

❑ Adjusting the volume of the different speakers

1 **Press CH LEVEL.**





2 **Use △▽ to select the speaker.**
The speaker that can be set switches each time one of the buttons is pressed.

3 **Use ◁ ▷ to adjust the volume.**

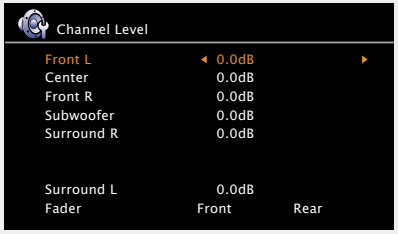
- In the case of a subwoofer, pressing ◁ when it is at "–12 dB" will change the setting to "OFF".

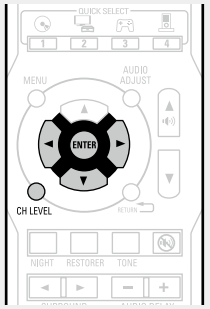
- If you do not press any button for approximately 5 seconds, the menu screen light turns off.
- When a headphone jack is inserted, the headphone channel level can be adjusted.

❑ Adjusting the volume of groups of speakers (Fader function)

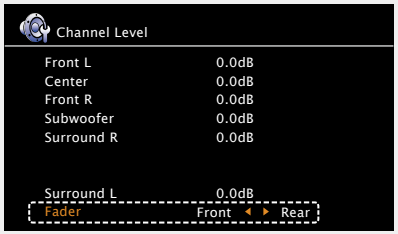
This function lets you adjust (fade) the sound all at once from the front (front speaker / center speaker) or rear (surround speaker / surround back speaker).

1 **Press CH LEVEL.**





2 **Press ▽ to select "Fader", then select the item to be adjusting using ◁ ▷.**



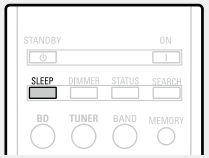
3 **Use ◁ ▷ to adjust the volume of the speakers.**
(◁ : front, ▷: rear)

- If you do not press any button for approximately 5 seconds, the menu screen light turns off.
- The fader function does not affect the subwoofer.
- The fader can be adjusted until the volume of the speaker is adjusted to the lowest value of –12 dB.

Sleep timer function

The power automatically goes into standby once the set time has elapsed.
This is convenient for playing sources while going to sleep.

Press SLEEP and display the time you want to set.
The "**SLEEP**" indicator on the display lights.



- The time switches as shown below each time **SLEEP** is pressed.

OFF → 10 min → 20 → 30 → 40 → 50 → 60 → 70 → 80 → 90 → 100 → 110 → 120 → OFF

To cancel the sleep timer

Press **SLEEP** to set "OFF".
The "**SLEEP**" indicator on the display turns off.

- If you do not press any button for approximately 5 seconds, the menu screen light turns off.
- The sleep timer setting is canceled if this unit's power is set to standby or turned off.

Quick select function

All of the settings in step 1 can be memorized together. By memorizing frequently used settings, you can quickly access and enjoy a playback environment that is consistently the same.

❑ Saving the settings

1 Set the items below to the settings you want to save.
① Input source (☞page 11)
② Volume (☞page 11)
③ Surround mode (☞page 21)
④ Video Select (☞page 34)

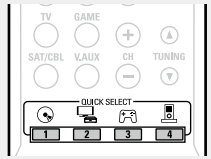
2 Press and hold the desired QUICK SELECT until "Memory" appears on the display.
The current settings will be memorized.

【Quick select defaults】

	Input source	Volume
QUICK SELECT 1	BD	–40 dB
QUICK SELECT 2	SAT/CBL	–40 dB
QUICK SELECT 3	GAME	–40 dB
QUICK SELECT 4	DOCK	–40 dB

❑ Recalling the settings

Press QUICK SELECT at which the settings you want to call out are saved.



If **QUICK SELECT** on the main unit is pressed, the same function as with the remote control unit can be obtained.

Various memory functions

❑ Personal memory plus function

This function sets the settings (input mode, surround mode, HDMI output mode, audio delay etc.) last selected for the individual input sources.

The surround parameters, tone settings and the volumes of the different speakers are stored for the individual surround modes.

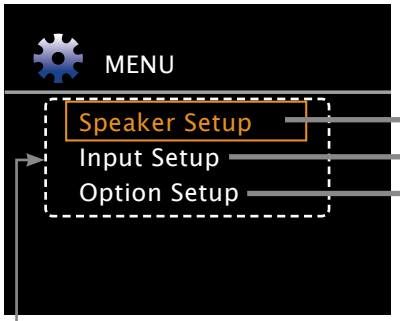
❑ Last function memory

This function stores the settings which were made before going into the standby mode.
When the power is turned back on, the settings are restored.

How to make detailed settings

Menu map

For menu operation, connect a TV to this unit and display the menu on the TV screen. For menu operations, see the following page.



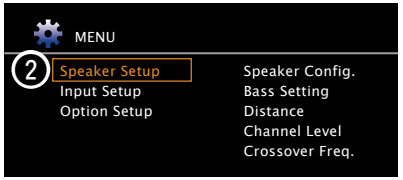
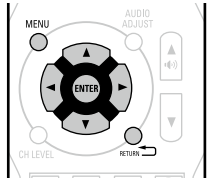
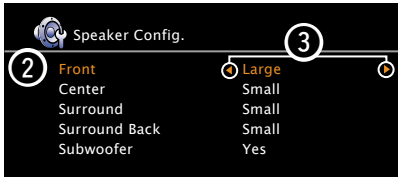
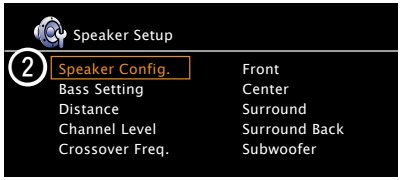
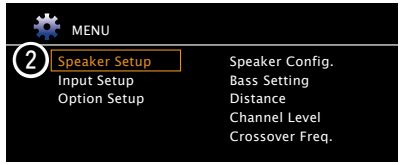
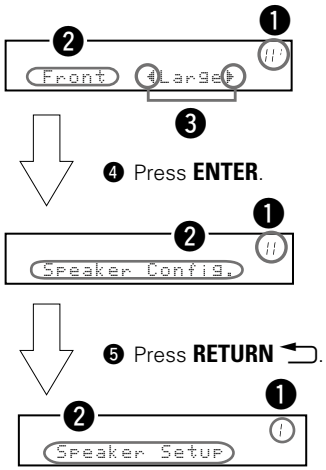
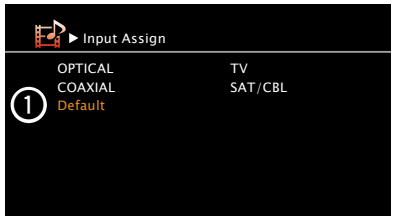
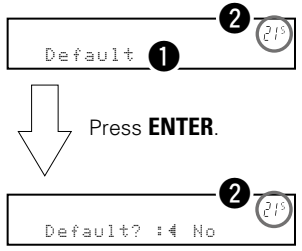
Items that only need to be set once

Set these for example upon purchase. Once these items are set, there is no need to set them again unless the speaker layout or the connected speakers have been changed.

Setting items	Detailed items	Description	Page
Speaker Setup	**Speaker Config.**	Selects speaker configuration and size (bass reproduction capability).	5
	Bass Setting	Sets subwoofer and LFE signal range playback.	6
	Distance	Sets distance from listening position to speakers.	6
	Channel Level	Sets the volume of the test tone to be the same when it is output from each speaker.	7
	Crossover Freq.	Sets the maximum frequency of the bass signal output from each channel to the subwoofer.	8
Input Setup Displayed items of the "Input Setup" menu differs, depending on the selected input source.	**Input Assign**	Changes input connector assignment.	33
	Auto Preset	Uses the auto preset function to program radio stations.	34
	Preset Skip	Sets the preset memories that you do not want to display when tuning.	34
	Video Select	Video of another input source is played back combined with the playing audio.	34
	Input Mode	Sets the audio input mode and decode mode.	34
	Source Level	Adjusts the playback level of the audio input.	35
	Playback Mode	Makes settings for iPod playback.	35
Option Setup	**Volume Control**	Sets the volume setting.	36
	Other Setup	Makes various other settings.	37
Audio Adjust		Adjusts surround sound parameters.	38
Tone		Adjusts the tonal quality of the sound.	40
NIGHT MODE		Optimized setting for late-night listening. Compress dynamic range (difference between loud and soft sounds).	40
RESTORER		Expands the lower and higher regions of compressed audio to enable richer audio playback.	41
Audio Delay		Compensates for incorrect timing between video and audio.	41

Examples of menu and front display

Below we describe typical examples of displays on the TV screen and on the set's display window.

	Menu display	Front display	Description
Top menu display			❶ Press **MENU** to display the menu screen. ❷ TV screen: Displays the selected line. Display: Displays the selected item. • Use △▽ to move to the item you want to set. ❸ The number of the current selected setting menu is displayed. 
Display when changing settings	 ❹ Press **ENTER**.  ❺ Press **RETURN** ⮌. 		❶ The number of the current selected setting menu is displayed. ❷ TV screen: Displays the selected line. Display: Displays the selected item. • Use △▽ to move to the item you want to set. ❸ ◄ ► is displayed at the sides of items whose setting can be changed. Use ◁ ▷ to change to the desired setting. ❹ Press **ENTER** to set to the mode in which the setting can be made. ❺ Press **RETURN** ⮌ to return to the previous menu.
Display when resetting			❶ Press ▽ to select "Default", then press **ENTER**. ❷ The number of the current selected setting menu is displayed. ❸ Press ◁ to select "Yes", then press **ENTER**.

Input Setup

Perform settings related to input source playback.
• You do not have to change the settings to use the unit. Make settings when needed.

Menu operation

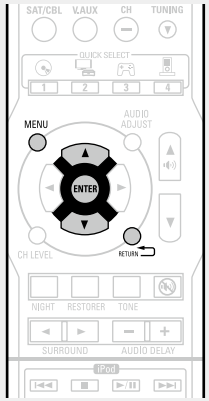
1 **Press MENU.**
The menu is displayed on the TV screen.

2 **Use △▽ to select "Input Setup", and then press ENTER.**

3 **Use △▽ to select the menu to be set or operated.**

4 **Press ENTER to enter the setting.**

• To return to the previous item, press **RETURN** ⮌.
• Exiting the Menu, press **MENU** while the menu is displayed.
The menu display disappears.



Items that can be set with the "Input Setup" procedure

- **Input Assign** (☞page 33)
- **Auto Preset** (☞page 34)
- **Preset Skip** (☞page 34)
- **Video Select** (☞page 34)
- **Input Mode** (☞page 34)
- **Source Level** (☞page 35)
- **Playback Mode** (☞page 35)

Important information

❑ About the display of input sources

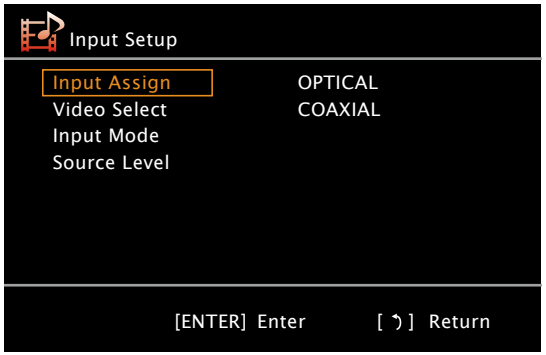
In this section, the configurable input sources for each item are shown as follows.

BD **DVD** **TV** **SAT/CBL** **GAME** **V.AUX** **DOCK** **TUNER**

Input Assign

Examples of "Input Assign" menu screen displays

This screen appears when the "Input Setup" – "Input Assign" menu is selected. Use the "Input Assign" menu to change the digital input connectors that are assigned to the input sources in default settings.

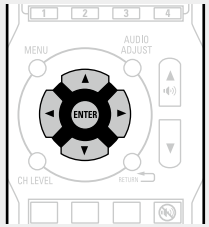


Input assignments menu operations

1 Use △▽ to select "Input Assign", and then press **ENTER**.

2 Use △▽◁ ▷ to select the input connector to be assigned.

3 Press **ENTER** to enter the setting.



NOTE

If all "OPTICAL" and "COAXIAL" assignment of the TV source are set to "OFF", TV source cannot be selected with the input source selection.

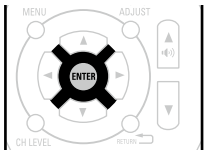
Setting items	Setting details
OPTICAL Set this to change the optical input connectors assigned to the input sources. BD / DVD / TV / SAT/CBL / GAME / V.AUX / DOCK	**BD / DVD / TV / SAT/CBL / GAME / V.AUX / DOCK** **OFF** : Do not assign a optical input connector to the selected input source. • At time of purchase, the settings of the different input sources are as shown below.
COAXIAL Set this to change the coaxial input connectors assigned to the input sources. BD / DVD / TV / SAT/CBL / GAME / V.AUX / DOCK	**BD / DVD / TV / SAT/CBL / GAME / V.AUX / DOCK** **OFF** : Do not assign a coaxial input connector to the selected input source. • At time of purchase, the settings of the different input sources are as shown below.
Default The "Input Assign" settings are returned to the default settings.	**Yes** : Reset to the defaults. **No** : Do not reset to the defaults. If you select "Default" and press **ENTER**, the message "Return settings to the default?" is displayed. Select "Yes" or "No", and then press **ENTER**.

Input source	BD	DVD	TV	SAT/CBL
Default setting	OFF	OFF	**OPTICAL**	OFF

Input source	GAME	V.AUX	DOCK
Default setting	OFF	OFF	OFF

Input source	BD	DVD	TV	SAT/CBL
Default setting	OFF	OFF	OFF	**COAXIAL**

Input source	GAME	V.AUX	DOCK
Default setting	OFF	OFF	OFF



Auto Preset

Use the auto preset function to program radio stations.

Setting items	Setting details
Start Start the auto preset process. TUNER	If an FM station cannot be preset automatically, select the desired station by tuning it in manually, then preset it manually.

Preset Skip

Default settings are underlined.

Set the preset memory block (from A to G) you do not want to display.

Setting items	Setting details
Block A – Block G Select a block to be skipped from among preset blocks (from A to G). TUNER	**ON** : Display the selected preset memory block. **SKIP** : Do not display the selected preset memory block.

Video Select

Default settings are underlined.

Setting items	Setting details
Video Select Video of another input source is played back combined with the playing audio.	**Source** : Play the picture and sound of the input source. **DVD** / **SAT/CBL** / **V.AUX** / **DOCK** : Select video input source to view. This can be set for individual input sources. NOTE It is not possible to select HDMI input signals.

Input Mode

Default settings are underlined.

The input modes available for selection may vary depending on the input source.

Setting items	Setting details
Input Mode Set the audio input modes for the different input sources. It is normally recommended to set the audio input mode to "Auto".	**Auto** : Automatically detect input signal and perform playback. **HDMI** : Play only signals from HDMI input. **Digital** : Play only signals from digital input (OPTICAL/COAXIAL). **Analog** : Play only signals from analog input. • If an input source is "BD", "GAME", "DOCK", "DVD" or "V.AUX", "Digital" can be selected by assigning "Input Assign" (☞page 33) to "OPTICAL" or "COAXIAL" (Selectable items differ depending on the input source.). If an input source is "TUNER", the setting is fixed to "Analog". • If the input source is set to "BD", "TV" or "GAME", it cannot be set to "Analog". • When digital signals are properly input, the DIG. indicator lights on the display. If the DIG. indicator does not light, check the digital input connector assignment and the connections.
Decode Mode Set the audio decode mode for input source. BD DVD TV SAT/CBL GAME V.AUX DOCK	**Auto** : Detect type of digital input signal and decode and play automatically. **PCM** : Decode and play only PCM input signals. **DTS** : Decode and play only DTS input signals. • This item can be set for input sources for which "OPTICAL" or "COAXIAL" is assigned at "Input Assign" (☞page 33). • This item can be set for HDMI input sources (BD, DVD, SAT/CBL or GAME). • Normally set this mode to "Auto". Set "PCM" and "DTS" when inputting the corresponding input signal.

Source Level

Default settings are underlined.

Setting items	Setting details
Source Level This function corrects the playback level of the selected input source's audio input. Make this setting if there are differences in the input volume levels between the different sources.	**–12dB – +12dB (0dB)**

Playback Mode

This item can be set when the input source is "DOCK".

Setting items	Setting details
Repeat Make settings for repeat mode. DOCK	**All** : All files are played repeatedly. **One** : A file being played is played repeatedly. **OFF** : Repeat playback mode is canceled.
Shuffle Make settings for shuffle mode. DOCK	❑ **When DENON control dock for iPod ASD-11R is connected** **Songs** : All files are played in shuffle playback mode. **Albums** : Files in the album are played in shuffle playback mode. **OFF** : Shuffle playback mode is canceled. ❑ **When DENON control dock for iPod ASD-3N, ASD-3W, ASD-51N or ASD-51W is connected** **ON** : Shuffle playback mode is enabled. **OFF** : Shuffle playback mode is canceled.

Option Setup

Make various option settings.

Menu operation

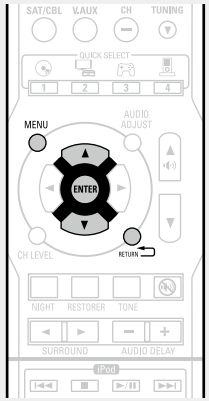
1 **Press MENU.**
The menu is displayed on the TV screen.

2 **Use △▽ to select "Option Setup", and then press ENTER.**

3 **Use △▽ to select the menu to be set or operated.**

4 **Press ENTER to enter the setting.**

- To return to the previous item, press **RETURN** ⮌.
- Exiting the Menu, press **MENU** while the menu is displayed. The menu display disappears.



Items that can be set with the "Option Setup" procedure

Volume Control (☞page 36)

Other Setup (☞page 37)

Volume Control

Default settings are underlined.

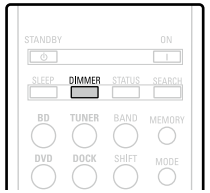
Sets the volume setting.

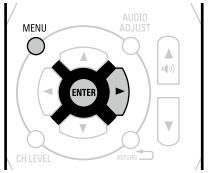
Setting items	Setting details
Volume Display Set how volume is displayed.	**Relative** : Display ––dB (Min), in the range –80.5 dB to 18 dB. **Absolute** : Display in the range 0 (Min) to 99. The "Volume Display" setting is applied also to the "Volume Limit" and "Power On Level" display method.
Volume Limit Make a setting for maximum volume.	**OFF** : Do not set a maximum volume. **–20dB (61)** / **–10dB (71)** / **0dB (81)** If "Volume Display" is set to "Absolute", the value in ( ) is displayed.
Power On Level Define the volume setting that is active when the power is turned on.	**Last** : Use the memorized setting from the last session. **– – – (0)** : Always use the muting on condition when power is turned on. **–80dB – 18dB (1 – 99)** : The volume is adjusted to the set level.
Mute Level Set the amount of attenuation when muting is on.	**Full** : The sound is muted entirely. **–40dB** : The sound is attenuated by 40 dB down. **–20dB** : The sound is attenuated by 20 dB down.

Other Setup

Default settings are underlined.

Make various other settings.

Setting items	Setting details
HDMI Audio Out Select HDMI audio output device.	**Amp** : Play back through speakers connected to the receiver. **TV** : Play back through TV connected to the receiver. If "TV" is selected, only an HDMI audio signal is output from the TV.
Auto Surround Make setting for memorizing surround mode setting for each input signal type.	**ON** : Memorize settings. Automatically play with the last used surround mode. **OFF** : Do not memorize settings. Surround mode does not change according to input signal. The auto surround mode function lets you store in the memory the surround mode last used for playing the four types of input signals listed below. ① Analog and PCM 2-channel signals ② Dolby Digital and DTS 2-channel signals ③ Dolby Digital and DTS multi-channel signals ④ LPCM Multi-channel signals
Display Adjust the display brightness of this unit.	**Bright** : Normal display brightness. **Dim** : Reduced display brightness. **Dark** : Very low display brightness. **OFF** : Turns the display off. Buttons on the main unit can be used for operations. Each time **DIMMER** is pressed, the setting is changed as shown below. Bright → Dim → Dark → OFF → Bright 

Setting items	Setting details
Setup Lock Protect settings from inadvertent change.	**ON** : Turn protection on. **OFF** : Turn protection off. To turn OFF the "Setup Lock", follow the procedure below. ① Press and hold **MENU** for at least 3 seconds. "Setup Lock:◄ON ►" appears on the display. ② Press ▷ to select "OFF", and then press **ENTER**.  **NOTE** When "Setup Lock" is set to "ON", the settings listed below can no longer be changed. Also, "Setup Lock!" is displayed if you attempt to operate related settings. • Menu operations • RESTORER • Channel Level • Audio Adjust

Adjusting the sound field effects

The sound being played in the surround mode can be adjusted to your liking.
The items (parameters) that can be adjusted depend on the signal being input and the currently set surround mode. For details on the adjustable parameters, see "Surround modes and surround parameters" (☞page 51).

NOTE

Some setting items cannot be set while playback is stopped. Make the settings during playback.

Items that can be set with the audio adjust procedure

Audio Adjust (☞page 38)
Tone (☞page 40)
NIGHT MODE (☞page 40)
RESTORER (☞page 41)
Audio Delay (☞page 41)

Audio Adjust

Default settings are underlined.

Adjust surround sound parameters. It may not be possible to set this item depending on the input signal.

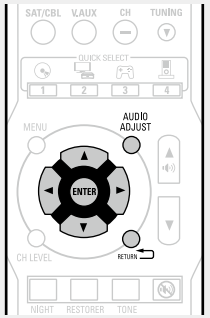
Audio Adjust menu operations

1 **Press AUDIO ADJUST and then press ENTER.**
The menu is displayed on the TV screen.

2 **Use △▽ to select the menu to be set or operated.**

3 **Press ◁ ▷ to enter the setting.**

- To return to the previous item, press **RETURN** ⮌.
- Exiting the Menu, press **AUDIO ADJUST** while the menu is displayed. The menu display disappears.



Setting items	Setting details
Mode Set the play modes for the different surround modes.	❑ **In the PLIIx or PLII mode** **Cinema** : Surround sound mode optimized for movie sources. **Music** : Surround sound mode optimized for music sources. **Game** : Surround sound mode optimized for games. **Pro Logic** : Dolby Pro Logic playback mode (PLII mode only). ❑ **In the DTS NEO:6 mode** **Cinema** : Surround sound mode optimized for movie sources. **Music** : Surround sound mode optimized for music sources. The "Music" mode is also effective for movie sources including a lot of stereo music.
LFE Adjust the low-frequency effects level (LFE).	**–10dB – 0dB** For proper playback of the different sources, we recommend setting to the values below. • Dolby Digital sources : "0dB" • DTS movie sources : "0dB" • DTS music sources : "–10dB"

☞See overleaf

Setting items	Setting details
Center Image Assign center channel signal to front left and right channels for wider sound.	**0.0 – 1.0 (0.3)** "Center Image" is displayed when the surround mode is set to "DTS NEO:6 Music".
Panorama Assign front L/R signal also to surround channels for wider sound.	**ON** : Set. **OFF** : Do not set. "Panorama" is displayed when the surround mode is set to "PLIIx Music" or "PLII Music".
Dimension Shift sound image center to front or rear to adjust playback balance.	**0 – 6 (3)** "Dimension" is displayed when the surround mode is set to "PLIIx Music" or "PLII Music".
Center Width Assign center channel signal to front left and right channels for wider sound.	**0 – 7 (3)** "Center Width" is displayed when the surround mode is set to "PLIIx Music" or "PLII Music".
AFDM **(Auto flag detect mode)** Detect the source's surround back channel signal and set the optimum surround mode automatically.	**ON** : Set. **OFF** : Do not set. **[Example] Playing Dolby Digital software (with EX flag)** • When "AFDM" is set to "ON", the surround mode is automatically set to the DOLBY D + PLIIx C mode. • To play in the DOLBY DIGITAL EX mode, set "AFDM" to "OFF" and "Audio Adjust" – "SB CH OUT" to "MTRX ON". Some Dolby Digital EX sources do not include EX flags. If the playback mode does not switch automatically even when "AFDM" is set to "ON", set "Audio Adjust" – "SB CH OUT" to "MTRX ON" or "PLIIx C".
D.Comp Compress dynamic range (difference between loud and soft sounds).	**Low** / **Mid** / **High** : These set the compression level. **OFF** : Turn dynamic range compression off.
DRC Compress dynamic range (difference between loud and soft sounds).	**Auto** : Automatic dynamic range compression on/off control according to source. This can be set in the Dolby TrueHD mode. **Low** / **Mid** / **High** : These set the compression level. **OFF** : Dynamic range compression always off.

Setting items	Setting details
SB CH OUT Sets the method of generating of the surround back channel.	❑ **For 2-channel sources** **ON** : The surround back channel is used. **OFF** : No signal is played from the surround back channels. ❑ **For multi-channel sources** Set the decoding method for the surround back channel. **DSCRT ON** : Play the surround back signals included in the 7.1-channel source. **MTRX ON** : Generate and play the surround back signals from the surround channel signals. **ES MTRX***1 : Generate and play the surround back signals from the surround channel signals of the DTS source. **ES DSCRT***2 : Play the surround back signals included in the 6.1-channel DTS source. **PLIIx C***3 : Generate and play the surround back signals by decoding the signals in the Dolby Pro Logic IIx Cinema mode. **PLIIx M** : Generate and play the surround back signals by decoding the signals in the Dolby Pro Logic IIx Music mode. **OFF** : Do not play the surround back channel. *1 This can be selected when playing DTS sources. *2 This can be selected when playing DTS sources including a signal to identify discrete 6.1-channel signals. *3 This can be selected when "Speaker Config." – "Surround Back" (page 5 "Speaker Config.") is set to other than "None". If the source being played contains a surround back signal, the decoder type is automatically selected by the AFDM function. Set "AFDM" to "OFF" to switch to your preferred decoder. **NOTE** If the setting in "Speaker Config." – "Surround Back" (page 5 "Speaker Config.") is "None", "SB CH OUT" is not displayed.
Subwoofer Turn subwoofer output on and off.	**ON** : The subwoofer is used. **OFF** : The subwoofer is not used. **NOTE** This can be set when the surround mode is "DIRECT" (page 23) and the "SW Mode" (page 6 "Bass Setting") is "LFE+Main".
Default The "Audio Adjust" settings are returned to the default settings.	**Yes** : Reset to the defaults. **No** : Do not reset to the defaults.

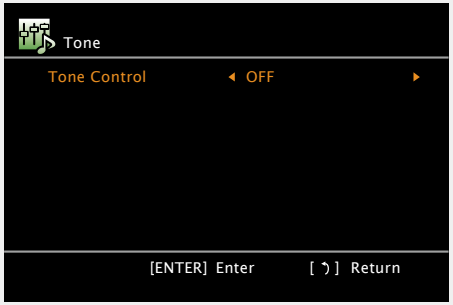
• If you do not press any button for approximately 5 seconds, the menu screen light turns off.

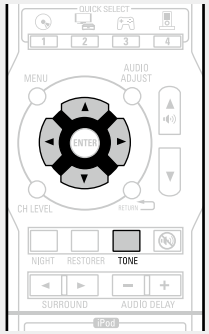
Tone

□ around items indicate the settings made upon purchase.

Adjust the tonal quality of the sound.

1 Press TONE.





2 Use ◁ ▷ to select "ON".

ON Allow tone adjustment (bass, treble).

OFF Playback without tone adjustment.

NOTE

The tone cannot be adjusted in the direct mode.

3 Press △▽ to select an item to be set, and use ◁ ▷ to select a setting value.

Bass Adjust low frequency range (bass).

- **–6dB – +6dB (0dB)**

Treble Adjust high frequency range (treble).

- **–6dB – +6dB (0dB)**

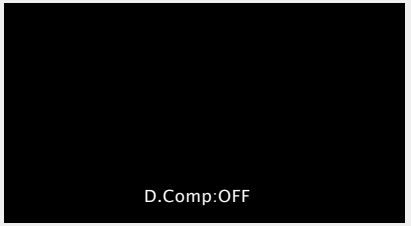
"Bass" or "Treble" can be set when "Tone Control" is set to "ON".

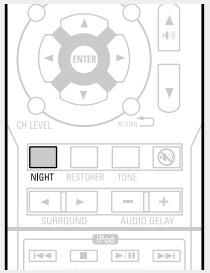
NIGHT MODE

□ around items indicate the settings made upon purchase.

Optimized setting for late-night listening.

Press NIGHT to select your desired mode.





OFF Not set.

Low Set the adjusted value to "Low".

Mid Set the adjusted value to "Middle".

High Set the adjusted value to "High".

When a Dolby TrueHD signal is output, "DRC" is displayed on the TV screen.
The setting mode is also changed as shown below.

OFF Not set.

Low Set the adjusted value to "Low".

Mid Set the adjusted value to "Middle".

High Set the adjusted value to "High".

Auto Automatic dynamic range compression on/off control according to the source.

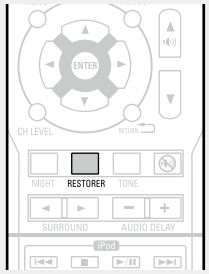
• If you do not press any button for approximately 5 seconds, the menu screen light turns off.

RESTORER

□ around items indicate the settings made upon purchase.

Compressed audio formats such as MP3, WMA (Windows Media Audio) and MPEG-4 AAC reduce the amount of data by eliminating signal components that are hard for the human ear to hear. The RESTORER function generates the signals eliminated upon compression, restoring the sound to conditions near those of the original sound before compression. It also corrects the sense of volume of the bass to obtain richer sound with compressed audio signals.

Press RESTORER to select "ON" or "OFF".



ON Use RESTORER.

OFF Do not use RESTORER.

• This can also be set by pressing **RESTORER** on the main unit.

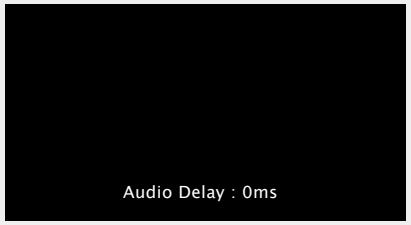
• This item can be set with analog signals or when a PCM signal (fs = 44.1/48 kHz) is input.
• This cannot be set when the surround mode is set to "DIRECT".
• This item default setting for "iPod" is "ON". All others are set to "OFF".
• When set to "ON", **RSTR** is displayed.

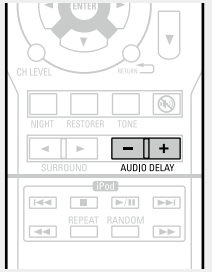
Audio Delay

□ around items indicate the settings made upon purchase.

While viewing video, manually adjust the time to delay audio output.

Use AUDIO DELAY +, – to select the value to be set.





0ms – **200ms**

Store "Audio Delay" for each input source.

Information

Information on the main unit's various settings (Status) and on input signals (Audio Input Signal) is shown on the display.
The information displayed changes each time you press **STATUS**.
The information is displayed for several seconds before the display returns to its original condition.

[Items to be checked]

- Input source
- Surround mode
- Input digital terminal
- Input mode
- Decode mode
- Video select
- Dialogue normalization

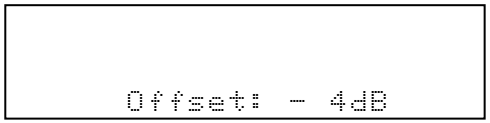
  etc.

NOTE

The information displayed differs according to the input source.

Dialogue normalization function

This function is automatically activated when playing Dolby Digital sources.
It automatically corrects the standard signal level for individual program sources.
The correction value can be checked using **STATUS**.

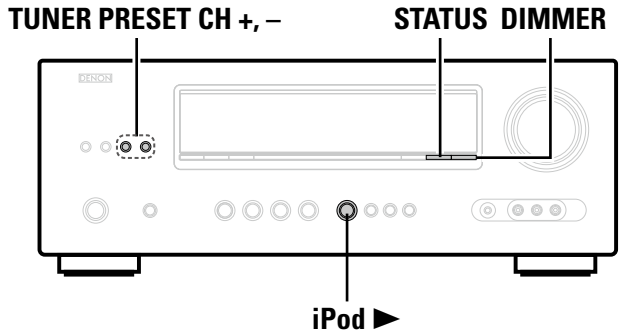


The figure is the corrected value. This cannot be changed.

Other settings

Switching between PAL and NTSC signal formats

Set the video signal format to be output for the TV you are using.
• The factory setting is “PAL”.



1 **Press and hold STATUS and DIMMER for at least 3 seconds.**
“V.Format:<PAL>” appears on the display.

2 **Press TUNER PRESET CH +, – and set the video signal format.**

3 **Press iPod ► to complete the setting.**

NOTE

When a format other than the video format of the connected TV is set, the picture will not be displayed properly.

Information

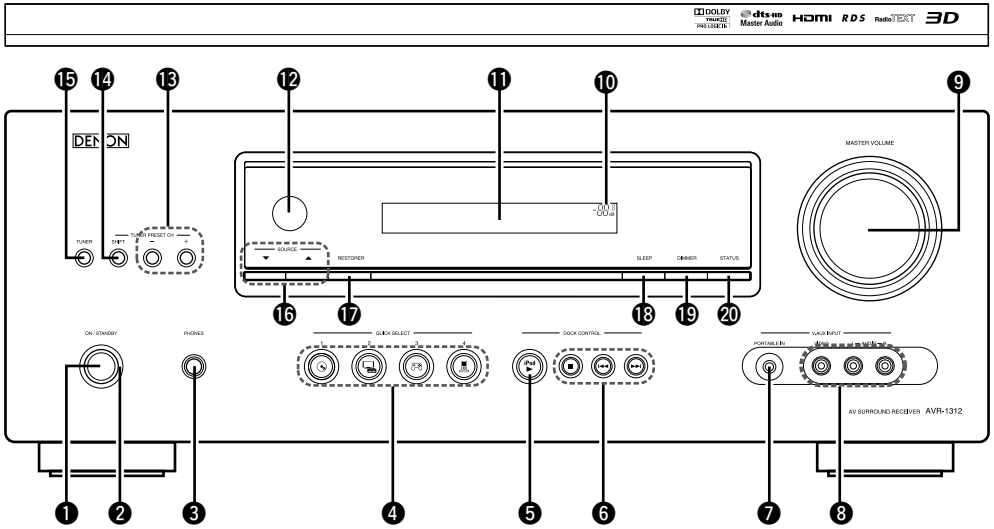
Here, we list various information related to this unit.
Please refer to this information as needed.

- Part names and functions ☞page 45
- Other information ☞page 50
- Troubleshooting ☞page 58
- Specifications ☞page 60
- Index ☞page 61

Part names and functions

Front panel

For buttons not explained here, see the page indicated in parentheses ( ).



❶ **Power operation button (ON/STANDBY)** ····· (📖 4, 📖 8)
Turns power to this unit on and off (standby).

❷ **Power indicator** ····· (📖 4, 📖 8)

❸ **Headphones jack (PHONES)**
When the headphones are plugged into this jack, audio will no longer be output from the connected speakers.

NOTE

To prevent hearing loss, do not raise the volume level excessively when using headphones.

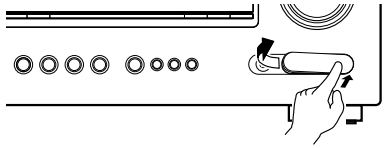
❹ **QUICK SELECT buttons** ····· (29)

❺ **iPod play button (iPod ►)** ····· (16)

❻ **iPod system buttons** ····· (16, 60)
- Stop button (■)
- Skip buttons (I◄◄, ►►I)

❼ **PORTABLE IN jack** ····· (9)

❽ **V.AUX INPUT connectors** ····· (8)
Remove the cap covering the connectors when you want to use them.



❾ **MASTER VOLUME control knob** ····· (11)

❿ **Master volume indicator**

⓫ **Display** ····· (46)

⓬ **Remote control sensor** ····· (49)

⓭ **Tuner preset channel buttons (TUNER PRESET CH +, –)** ····· (18)

⓮ **SHIFT button** ····· (17, 18)

⓯ **TUNER button** ····· (17)

⓰ **Input source select buttons (SOURCE ▲▼)** ····· (11)

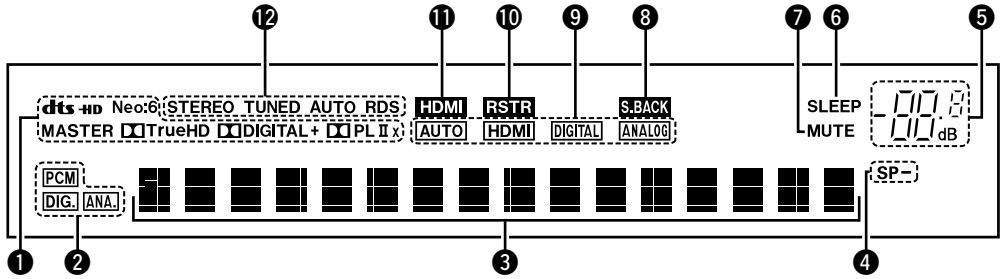
⓱ **RESTORER button** ····· (41)

⓲ **SLEEP button** ····· (29)

⓳ **DIMMER button** ····· (37)

⓴ **STATUS button** ····· (13)

Display



❶ Decoder indicators
These light when the respective decoders are operating.

❷ Input signal indicators

❸ Information display
The input source name, surround mode, setting values and other information are displayed here.

❹ Front speaker indicator
This lights according to the setting of the front speakers.

❺ Master volume indicator

❻ Sleep timer indicator
This lights when the sleep mode is selected (☞page 29).

❼ MUTE indicator
This lights when the mute mode is selected (☞page 11).

❽ Surround back indicator
This lights when audio signals are being output from the surround back speakers (📖 page 6 “Speaker Config. (Continued)”).

❾ Input mode indicators
Set the audio input modes for the different input sources (☞page 34).

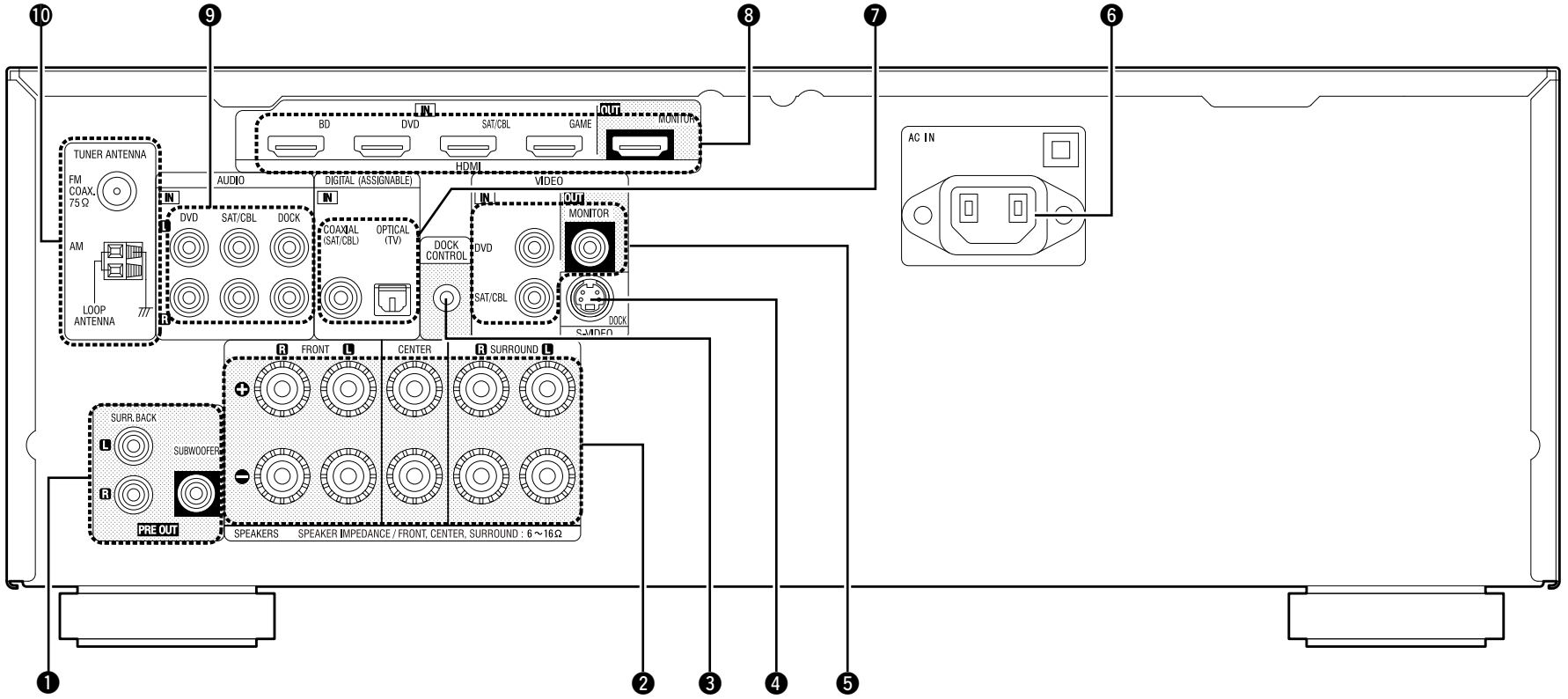
❿ RESTORER indicator
This lights when the RESTORER mode is selected (☞page 41).

⓫ HDMI indicator
This lights when playing using HDMI connections.

⓬ Tuner reception mode indicators
These light according to the reception conditions when the input source is set to “TUNER”.
STEREO : In the FM mode, this lights up when receiving stereo broadcasts.
TUNED : Lights up when the broadcast is properly tuned in.
AUTO : Lights up when in the auto tuning mode.
RDS : Lights up when receiving RDS broadcasts.

Rear panel

See the page indicated in parentheses ( ).



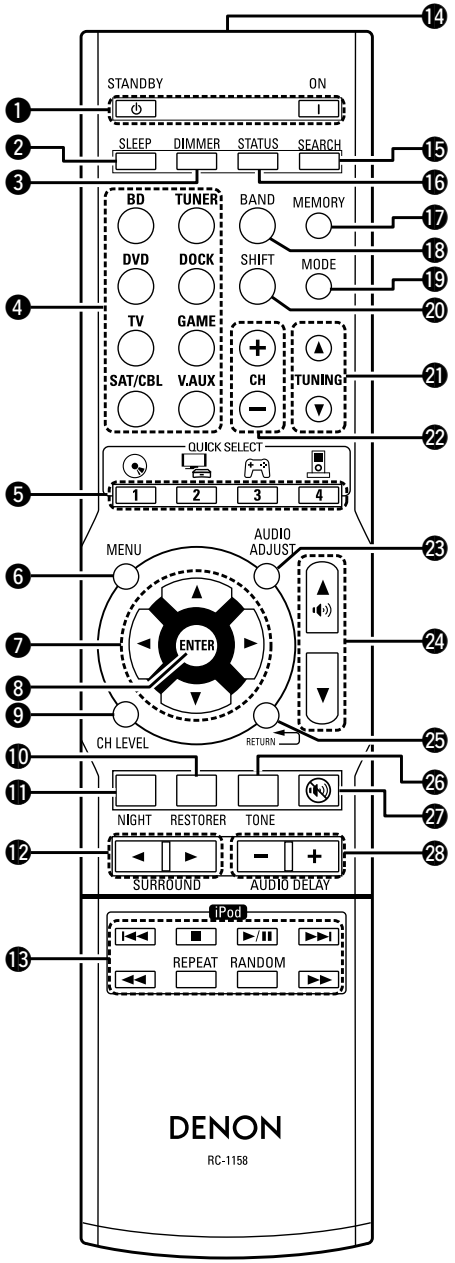
- ❶ **PRE OUT connectors** ..... (3, 26, 27)
- ❷ **Speaker terminals** ..... (3, 26, 27)
- ❸ **DOCK CONTROL jack** ..... (9)
- ❹ **S-VIDEO connector** ..... (9)
- ❺ **VIDEO connectors** ..... (7, 8)
- ❻ **AC inlet (AC IN)** ..... (4)
- ❼ **Digital audio connectors** ..... (7, 8)
- ❽ **HDMI connectors** ..... (4, 5)
- ❾ **Analog audio connectors** ..... (7, 8, 9)
- ❿ **FM/AM antenna terminals** ..... (10)

NOTE

Do not touch the inner pins of the connectors on the rear panel. Electrostatic discharge may cause permanent damage to the unit.

Remote control unit

For buttons not explained here, see the page indicated in parentheses ( ).



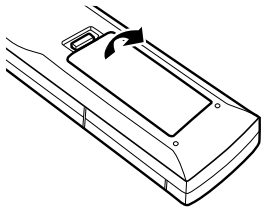
❶ **Power buttons (ON, STANDBY)** ..... (4, 8)
❷ **Sleep timer button (SLEEP)** ..... (29)
❸ **DIMMER button** ..... (37)
❹ **Input source select buttons** ..... (11)
❺ **QUICK SELECT buttons** ..... (29)
❻ **MENU button** ..... (31, 32)
❼ **Cursor buttons (△▽◁ ▷)** ..... (31, 32)
❽ **ENTER button** ..... (31, 32)
❾ **Channel level button (CH LEVEL)** ..... (28)
❿ **RESTORER button** ..... (41)
⓫ **NIGHT button** ..... (40)
⓬ **SURROUND buttons (◄ ►)** ..... (21, 22, 23)
⓭ **iPod system buttons** ..... (16)
- Skip buttons (I◄◄, ►►I)
- Stop button (■)
- Play/Pause button (►/II)
- Search buttons (◄◄, ►►)
- Repeat playback button (REPEAT)
- Random playback button (RANDOM)

⓮ **Remote control signal transmitter** ..... (49)
⓯ **SEARCH button** ..... (13, 14, 18)
⓰ **STATUS button** ..... (13)
⓱ **MEMORY button** ..... (17)
⓲ **BAND button** ..... (17)
⓳ **MODE button** ..... (17)
⓴ **SHIFT button** ..... (17, 18)
㉑ **TUNING buttons (▲▼)** ..... (17)
㉒ **Channel buttons (CH +, –)** ..... (17, 18)
㉓ **AUDIO ADJUST button** ..... (22, 38)
㉔ **Master volume control buttons (▲▼)** ..... (11)
㉕ **RETURN button** ..... (31, 32)
㉖ **TONE button** ..... (40)
㉗ **Muting button** ..... (11)
㉘ **AUDIO DELAY button (+, –)** ..... (41)

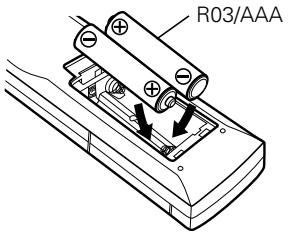
☞See overleaf

Inserting the batteries

① Remove the rear lid in the direction of the arrow and remove it.



② Load the two batteries properly as indicated by the marks in the battery compartment.



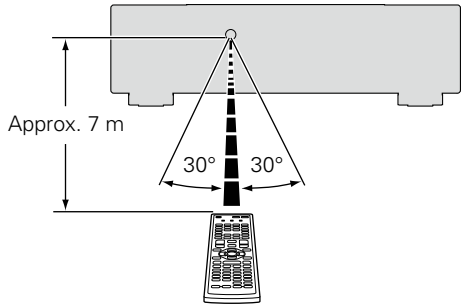
③ Put the rear cover back on.

NOTE

- Insert the specified batteries in the remote control unit.
- Replace the batteries with new ones if the set does not operate even when the remote control unit is operated close to the unit. (The supplied batteries are only for verifying operation.)
- When inserting the batteries, be sure to do so in the proper direction, following the ⊕ and ⊖ marks in the battery compartment.
- To prevent damage or leakage of battery fluid:
  - Do not use a new battery together with an old one.
  - Do not use two different types of batteries.
  - Do not attempt to charge dry batteries.
  - Do not short-circuit, disassemble, heat or dispose of batteries in flames.
  - Do not keep the battery in a place exposed to direct sunlight or in places with extremely high temperatures, such as near a heater.
- If the battery fluid should leak, carefully wipe the fluid off the inside of the battery compartment and insert new batteries.
- Remove the batteries from the remote control unit if it will not be in use for long periods.
- Used batteries should be disposed of in accordance with the local regulations regarding battery disposal.
- The remote control unit may function improperly if rechargeable batteries are used.

Operating range of the remote control unit

Point the remote control unit at the remote sensor when operating it.



NOTE

- The set may function improperly or the remote control unit may not operate if the remote control sensor is exposed to direct sunlight, strong artificial light from an inverter type fluorescent lamp or infrared light.
- When using 3D video devices that transmit radio communication signals (such as infrared signals etc) between the various units (such as the monitor, 3D glasses, 3D transmitter unit etc), the remote control unit may not operate due to interference from those radio communication signals. If this occurs, adjust the direction and distance of the 3D communication for each unit, and check that the remote control unit operation is not affected by these signals.

- ❏ **Trademark information** (☞page 50)
- ❏ **Surround** (☞page 51)
- ❏ **Relationship between video signals and monitor output** (☞page 55)
- ❏ **Explanation of terms** (☞page 56)

Trademark information

This product uses the following technologies:

DOLBY TRUE HD PRO LOGIC IIx	Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories.
dts-HD Master Audio	Manufactured under license under U.S. Patent #'s: 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,226,616; 6,487,535; 7,212,872; 7,333,929; 7,392,195; 7,272,567 & other U.S. and worldwide patents issued & pending. DTS and the Symbol are registered trademarks, & DTS-HD, DTS-HD Master Audio, and the DTS logos are trademarks of DTS, Inc. Product includes software. © DTS, Inc. All Rights Reserved.
HDMI	HDMI, the HDMI Logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

Surround

This unit is equipped with a digital signal processing circuit that lets you play program sources in the surround mode to achieve the same sense of presence as in a movie theater.

Surround modes and surround parameters

This table shows the speakers that can be used in each surround mode and the surround parameters adjustable in each surround mode.

Symbols in the table

○ This indicates the audio output channels or surround parameters that can be set.
◎ This indicates the audio output channels. The output channels depend on the settings of page 5 "Speaker Config.".

Surround mode (page 21)	Channel output					Audio Adjust (page 38)			
	Front L/R	Center	Surround L/R	Surround Back L/R	Subwoofer	Mode (page 38)	D. Comp ∗3 (page 39)	DRC ∗4 (page 39)	LFE ∗5 (page 38)
DIRECT (2channel)	○				◎∗2		○	○	
DIRECT (Multi-channel)	○	◎	◎	◎∗1	◎		○	○	○
STEREO	○				◎		○	○	○
MULTI CH IN	○	◎	◎	◎	◎				○
DOLBY PRO LOGIC IIx	○	◎	◎	◎	◎	○	○	○	
DOLBY PRO LOGIC II	○	◎	◎		◎	○	○	○	
DTS NEO:6	○	◎	◎	◎	◎	○	○	○	
DOLBY DIGITAL	○	◎	◎	◎	◎		○		○
DOLBY DIGITAL Plus	○	◎	◎	◎	◎		○		○
DOLBY TrueHD	○	◎	◎	◎	◎				○
DTS SURROUND	○	◎	◎	◎	◎		○		○
DTS 96/24	○	◎	◎	◎	◎		○		○
DTS-HD	○	◎	◎	◎	◎		○		○
DTS Express	○	◎	◎	◎	◎		○		○
MULTI CH STEREO	○	◎	◎	◎	◎		○		○
VIRTUAL	○				◎∗2		○		○

∗1 A signal for each channel contained in an input signal is output as audio.
∗2 Only when "SW Mode" is set to "LFE+Main" (page 6 "Bass Setting"), sound is output from the subwoofer.
∗3 This item can be selected when a Dolby Digital or DTS signal is played.
∗4 This item can be selected when a Dolby TrueHD signal is played.
∗5 This item can be selected when a Dolby Digital or DTS signal or DVD-Audio is played.

Surround mode (☞page 21)	Audio Adjust (☞page 38)							Tone (☞page 40)	RESTORER ∗7 (☞page 41)
	AFDM ∗6 (☞page 39)	SB CH OUT (☞page 39)	Subwoofer (☞page 39)	PRO LOGIC II/IIx Music mode only			NEO:6 Music mode only		
				Panorama (☞page 39)	Dimension (☞page 39)	Center Width (☞page 39)	Center Image (☞page 39)		
DIRECT (2 channel)			○∗2						
DIRECT (Multi-channel)									
STEREO								○	○
MULTI CH IN	○	○						○	
DOLBY PRO LOGIC IIx		○		○	○	○		○	○
DOLBY PRO LOGIC II		○		○	○	○		○	○
DTS NEO:6		○					○	○	○
DOLBY DIGITAL	○	○						○	
DOLBY DIGITAL Plus	○	○						○	
DOLBY TrueHD	○	○							
DTS SURROUND	○	○						○	
DTS 96/24	○	○						○	
DTS-HD	○	○							
DTS Express	○	○						○	
MULTI CH STEREO		○						○	○
VIRTUAL								○	○

∗2 Only when "SW Mode" is set to "LFE+Main" (page 6 "Bass Setting"), sound is output from the subwoofer.
∗6 This item can be selected when a Dolby Digital or DTS or DVD-Audio signal is played.
∗7 This item can be set when the input signal is analog, PCM 48 kHz or 44.1 kHz.

❑ Types of input signals, and corresponding surround modes

This table shows the input signal that can be played in each surround mode. Check the audio signal of the input source then select the surround mode.

Symbols in the table

● This indicates the default surround mode.
◎ This indicates the surround mode that is fixed when "AFDM" (☞page 39) is set to "ON".
○ This indicates the selectable surround mode.

Surround mode (☞page 21)	NOTE	Input signal types and formats																
		ANALOG	PCM		DTS-HD		DTS					DOLBY		DOLBY DIGITAL				
			PCM (multi ch)	PCM (2ch)	DTS-HD Master Audio	DTS-HD High Resolution Audio	DTS EXPRESS	DTS ES DSCRT (With Flag)	DTS ES MTRX (With Flag)	DTS (5.1ch)	DTS 96/24	DOLBY TrueHD	DOLBY DIGITAL Plus	DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL (5.1/5/4ch)	DOLBY DIGITAL (4/3ch)	DOLBY DIGITAL (2ch)
DTS SURROUND																		
DTS-HD MSTR					●													
DTS-HD HI RES						●												
DTS ES DSCRT6.1	*							●◎										
DTS ES MTRX6.1	*								●◎									
DTS SURROUND								○	○	●								
DTS 96/24											●							
DTS + PLIIx CINEMA	*							○	○	○	○							
DTS + PLIIx MUSIC	*							○	○	○	○							
DTS EXPRESS							●											
DTS + NEO:6	*								○	○	○							
DTS NEO:6 CINEMA		○		○														○
DTS NEO:6 MUSIC		○		○														○
DOLBY SURROUND																		
DOLBY TrueHD												●						
DOLBY DIGITAL+													●					
DOLBY DIGITAL EX	*													○	○	○	○	
DOLBY DIGITAL														○	●	●	●	
DOLBY (D) +PLIIx CINEMA	*													●◎	○	○	○	
DOLBY (D) +PLIIx MUSIC	*													○	○	○	○	
DOLBY PRO LOGIC IIx CINEMA	*	○		○														○
DOLBY PRO LOGIC IIx MUSIC	*	○		○														○
DOLBY PRO LOGIC IIx GAME	*	○		○														○
DOLBY PRO LOGIC II CINEMA		○		○														○
DOLBY PRO LOGIC II MUSIC		○		○														○
DOLBY PRO LOGIC II GAME		○		○														○
DOLBY PRO LOGIC		○		○														○

* If "Speaker Config." – "Surround Back" (page 5 "Speaker Config.") is set to "None", this surround mode cannot be selected.

Surround mode (☞page 21)	NOTE	Input signal types and formats																
		ANALOG	PCM		DTS-HD		DTS					DOLBY		DOLBY DIGITAL				
			PCM (multi ch)	PCM (2ch)	DTS-HD Master Audio	DTS-HD High Resolution Audio	DTS EXPRESS	DTS ES DSCRT (With Flag)	DTS ES MTRX (With Flag)	DTS (5.1ch)	DTS 96/24	DOLBY TrueHD	DOLBY DIGITAL Plus	DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL (5.1/5/4ch)	DOLBY DIGITAL (4/3ch)	DOLBY DIGITAL (2ch)
MULTI CH IN																		
MULTI CH IN			●															
MULTI CH IN + PLⅡx CINEMA	*		○															
MULTI CH IN + PLⅡx MUSIC	*		○															
MULTI CH IN 7.1			● ◎ (7.1)															
DIRECT																		
DIRECT		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DSP SIMULATION																		
MULTI CH STEREO		○	○	○				○	○	○	○			○	○	○	○	○
VIRTUAL		○	○	○				○	○	○	○			○	○	○	○	○
STEREO																		
STEREO		●	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○

* If "Speaker Config." – "Surround Back" (📖 page 5 "Speaker Config.") is set to "None", this surround mode cannot be selected.

Relationship between video signals and monitor output

Input connector			Output connector		Menu displayed	
HDMI	S-VIDEO	VIDEO	HDMI	VIDEO	HDMI	VIDEO
×	×	×	×	×	Only the menu is displayed	×
×	×	○	×	○ <VIDEO>	Only the menu is displayed	× (VIDEO)
×	○	×	×	○ <S-VIDEO>	Only the menu is displayed	× (S-VIDEO)
○	×	×	○ <HDMI>	×	○ (HDMI)	×
○	×	○	○ <HDMI>	○ <VIDEO>	○ (HDMI)	× (VIDEO)
○	○	×	○ <HDMI>	○ <S-VIDEO>	○ (HDMI)	× (S-VIDEO)

○ Video signal input present
× No video signal input

○ < > The input signal between the < > marks is output.
× No video signal output

○ ( ) Superimposed on the picture indicated in ( ).
× ( ) Only the picture in ( ) is output.

NOTE

- If you operate the menu while playing back 3D video content or computer's resolution (e.g. VGA), the playback video is replaced by the menu screen. The playback video is not displayed behind the menu screen.
- This unit does not show the status display while playing back 3D video content or computer's resolution (e.g. VGA).

Explanation of terms

A

Adobe RGB color, Adobe YCC601 color
Like "x.v.Color", each of these color spaces defines a palette of available colors that is larger than the traditional RGB color model.

D

Deep Color
This technology allows expression of more number of colors than the conventional 8 bits and can reproduce colors close to natural ones without color streak.

Dolby Digital
Dolby Digital is a multi-channel digital signal format developed by Dolby Laboratories.
A total of 5.1 channels are played: 3 front channels ("FL", "FR" and "C"), 2 surround channels ("SL" and "SR") and the "LFE" channel for low frequencies.
Because of this, there is no crosstalk between channels and a realistic sound field with a "three-dimensional" feeling (sense of distance, movement and positioning) is achieved.
A realistic, powerful sense of presence is achieved when playing movie sources in AV rooms as well.

Dolby Digital EX
Dolby Digital EX is a 6.1-channel surround format proposed by Dolby Laboratories that allows users to enjoy in their homes the "DOLBY DIGITAL SURROUND EX" audio format jointly developed by Dolby Laboratories and Lucas Films.
The 6.1 channels of sound, including surround back channels, provide improved sound positioning and expression of space.

Dolby Digital Plus
Dolby Digital Plus is an improved Dolby Digital signal format that is compatible with up to 7.1 channels of discrete digital sound and also improves sound quality thanks to extra data bit rate performance. It is upwardly compatible with conventional Dolby Digital, so it offers greater flexibility in response to the source signal and the conditions of the playback device.

Dolby Pro Logic Ⅱ
Dolby Pro Logic Ⅱ is a matrix decoding technology developed by Dolby Laboratories.
Regular music such as that on CDs is encoded into 5 channels to achieve an excellent surround effect. The surround channel signals are converted into stereo and full band signals (with a frequency response of 20 Hz to 20 kHz or greater) to create a "three-dimensional" sound image offering a rich sense of presence for all stereo sources.

Dolby Pro Logic Ⅱx
Dolby Pro Logic Ⅱx is a further improved version of the Dolby Pro Logic Ⅱ matrix decoding technology. Audio signals recorded in 2 channels are decoded to achieve a natural sound with up to 7.1 channels. There are three modes: "Music" suited for playing music, "Cinema" suited for playing movies, and "Game" which is optimized for playing games.

Dolby TrueHD
Dolby TrueHD is a high definition audio technology developed by Dolby Laboratories, using lossless coding technology to faithfully reproduce the sound of the studio master.
This format provides the facility to support up to 8 audio channels with a sampling frequency of 96kHz/24bit resolution and up to 6 audio channels with a sampling frequency of 192kHz/24bit resolution. Dolby TrueHD is adopted for applications that put very high importance on sound quality.

Downmix
This function converts the number of channels of surround audio to less number of channels and plays back.

DTS
This is an abbreviation of Digital Theater System, which is a digital audio system developed by DTS. When playing back audio by connecting this system with a device such as DTS amplifier, accurate sound field position and realistic sound effect as if you are in a movie theater can be obtained.

DTS 96/24
DTS 96/24 is a digital audio format enabling high sound quality playback in 5.1 channels with a sampling frequency of 96 kHz and 24 bit quantization on DVD-Video.

DTS Digital Surround
DTS Digital Surround is the standard digital surround format of DTS, Inc., compatible with a sampling frequency of 44.1 or 48 kHz and up to 5.1 channels of digital discrete surround sound.

DTS-ES™ Discrete 6.1
DTS-ES™ Discrete 6.1 is a 6.1-channel discrete digital audio format adding a surround back (SB) channel to the DTS digital surround sound.
Decoding of conventional 5.1-channel audio signals is also possible according to the decoder.

DTS-ES™ Matrix 6.1
DTS-ES™ Matrix 6.1 is a 6.1-channel discrete digital audio format inserting a surround back (SB) channel to the DTS digital surround sound through matrix encoding. Decoding of conventional 5.1-channel audio signals is also possible according to the decoder.

DTS Express
DTS Express is an audio format supporting low bit rates (max. 5.1 channels, 24 to 256 kbps).

DTS-HD
This audio technology provides higher sound quality and enhanced functionality than the conventional DTS and is adopted as an optional audio for Blu-ray Disc. This technology supports multi-channel, high data transfer speed, high sampling frequency, and lossless audio playback. Maximum 7.1-channels are supported in Blu-ray Disc.

DTS-HD High Resolution Audio
DTS-HD High Resolution Audio is an improved version of the conventional DTS, DTS-ES and DTS 96/24 signals formats, compatible with sampling frequencies of 96 or 48 kHz and up to 7.1 channels of discrete digital sound. High data bit rate performance provides high quality sound. This format is fully compatible with conventional products, including conventional DTS digital surround 5.1-channel data.

DTS-HD Master Audio
DTS-HD Master Audio is a lossless audio format created by Digital Theater System (DTS). This format provides the facility to support up to 8 audio channels with a sampling frequency of 96kHz/24bit resolution and up to 6 audio channels with a sampling frequency of 192kHz/24bit resolution. It is fully compatible with conventional products, including conventional DTS digital surround 5.1-channel data.

DTS NEO:6™ Surround
DTS NEO:6™ is a matrix decoding technology for achieving 6.1-channel surround playback with 2-channel sources. It includes "DTS NEO:6 Cinema" suited for playing movies and "DTS NEO:6 Music" suited for playing music.

Dynamic range
The difference between the maximum undistorted sound level and the minimum discernible level above the noise emitted by the device.

H

HDCP
When transmitting digital signals between devices, this copyright protection technology encrypts the signals to prevent content from being copied without authorization.

HDMI
This is an abbreviation of High-Definition Multimedia Interface, which is an AV digital interface that can be connected to a TV or amplifier. Video signal and audio signal can be connected using 1 cable.

L

LFE
This is an abbreviation of Low Frequency Effect, which is an output channel that emphasizes low frequency effect sound. Surround audio is intensified by outputting 20 Hz to 120 Hz deep bass.

M

MP3 (MPEG Audio Layer-3)

This is an internationally standardized audio data compression scheme, using the "MPEG-1" video compression standard. It compresses the data volume to about one eleventh its original size while maintaining sound quality equivalent to a music CD.

MPEG (Moving Picture Experts Group), MPEG-2, MPEG-4

These are the names for digital compression format standards used for the encoding of video and audio. Video standards include "MPEG-1 Video", "MPEG-2 Video", "MPEG-4 Visual", "MPEG-4 AVC". Audio standards include "MPEG-1 Audio", "MPEG-2 Audio", "MPEG-4 AAC".

P

Protection Circuit

This is a function to prevent damage to devices within the power supply when an abnormality such as an overload, excess voltage occurs or temperature for any reason.

In this unit, the power indicator blinks and the unit enters standby mode when an abnormality occurs.

S

Sampling frequency

Sampling involves taking a reading of a sound wave (analog signal) at regular intervals and expressing the height of the wave at each reading in digitized format (producing a digital signal).

The number of readings taken in one second is called the "sampling frequency". The larger the value, the closer the reproduced sound is to the original.

Speaker impedance

This is an AC resistance value, indicated in Ω (ohms). Greater power can be obtained with this value smaller.

sYCC601 color

Like "x.v.Color", each of these color spaces defines a palette of available colors that is larger than the traditional RGB color model.

W

WMA (Windows Media Audio)

This is audio compression technology developed by Microsoft Corporation.

WMA data can be encoded using Windows Media® Player Ver.7, 7.1, Windows Media® Player for Windows® XP and Windows Media® Player 9 Series.

To encode WMA files, only use applications authorized by Microsoft Corporation. If you use an unauthorized application, the file may not work properly.

X

x.v.Color

This function lets HDTVs display colors more accurately. It enables display with natural, vivid colors. "x.v.Color" is a Sony registered trademark.

Troubleshooting

If a problem should arise, first check the following:
1. Are the connections correct?
2. Is the set being operated as described in the owner's manual?
3. Are the other devices operating properly?
If this unit does not operate properly, check the items listed in the table below. Should the problem persist, there may be a malfunction.
In this case, disconnect the power immediately and contact your store of purchase.

【General】

Symptom	Cause/Solution	Page
Power does not turn on.	• Check whether the power plug is correctly inserted into the power outlet. • The protection circuit is active. Disconnect the power plug from the electric outlet, wait 5 to 10 seconds and then insert it back into the outlet.	4 57
Display is off.	• Set "Display" on the menu to something other than "OFF".	37
The power indicator is blinking red.	• The temperature inside the unit has risen. Please turn off power once, and re-apply the power after the temperature has fallen sufficiently. • Please re-install this unit in a place having good ventilation. • Please use speakers which have the specified impedance. • The speaker cable has shorted (is touching). Firmly twist the core wire in the speaker cable, and then re-connect it to the speaker terminal.	– – 3, 26 3
After turning on the power, the power indicator is blinking red.	• This unit amplifier circuit has failed. Turn off the power and please contact the DENON service adviser.	–
Set does not operate properly.	• Reset the microprocessor.	60

【HDMI】

Symptom	Cause/Solution	Page
No audio is output with HDMI connection.	• Check the connection of the HDMI connectors. • When outputting HDMI audio from the speakers, set "HDMI Audio Out" on the menu to "Amp". • When outputting HDMI audio from a TV, set "HDMI Audio Out" on the menu to "TV".	5 37 37
No video is output with HDMI connection.	• Check the connection of the HDMI connectors. • Set the input source to match the connected HDMI connector. • Check whether the TV is compatible with copyright protection (HDCP). If connected to a device not compatible with HDCP, video will not be output correctly.	5 5, 11 5

【Video】

Symptom	Cause/Solution	Page
No picture appears.	• Check the TV connection. • Set the TV input correctly.	4 4

【Audio】

Symptom	Cause/Solution	Page
Audio is not output.	• Check the connections for all devices.	4, 5, 7, 8, 9, 10
	• Check the speaker connections and configurations.	3, 26, 27
	• Check whether the audio device power is turned on.	–
	• Adjust the master volume.	11
	• Cancel the mute mode.	11
	• Select a suitable input source.	11
	• Select a suitable input mode.	34
	• Disconnect the headphones. No sound is output from the speakers when headphones are connected.	45
No sound is produced from surround speaker.	• Check if the surround speakers are connected to the SURROUND terminals.	–
No sound is produced from surround back speaker.	• Set "Speaker Config." – "Surround Back" on the menu to something other than "None".	6
	• Set the surround mode to something other than "STEREO" and "VIRTUAL".	21
No sound is produced from subwoofer.	• Check the subwoofer connections.	3, 26, 27
	• Turn on the subwoofer's power.	4
	• Set "Speaker Config." – "Subwoofer" on the menu to "Yes".	6
	• If "Front" and "Center" for "Speaker Config." are set to "Large", and "SW Mode" is set to "LFE", no sound may be output from the subwoofers, depending on the input signal or selected surround mode.	5, 6
DTS sound is not output.	• Set "Decode Mode" on the menu to "Auto" or "DTS".	34
Dolby TrueHD, DTS-HD, Dolby Digital Plus audio is not output.	• Make HDMI connections.	5
Dolby PLII mode or DTS NEO:6 mode cannot be selected.	• Check that "Speaker Config." – "Center" or "Surround" is set to other than "None". If the speaker system is 2.0/2.1ch, this surround mode cannot be selected.	5
	• When headphones are used, Dolby PLII or DTS NEO:6 cannot be selected.	–
RESTORER cannot be selected.	• Check that an analog signal or PCM signal (fs=44.1/48 kHz) is input. For playback of multichannel signals such as Dolby Digital or DTS surround, RESTORER cannot be used.	41

【Radio】

Symptom	Cause/Solution	Page
Reception fails, or there is a lot of noise or distortion.	• Change the antenna orientation or position.	10
	• Separate the AM loop antenna from the unit.	10
	• Use an FM outdoor antenna.	10
	• Separate the antenna from other connection cables.	10

【Control dock for iPod】

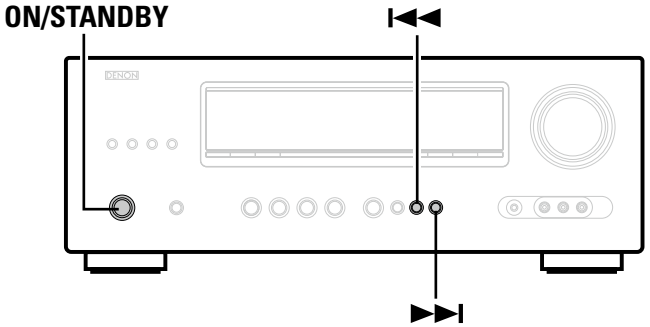
Symptom	Cause/Solution	Page
iPod cannot be played.	• Check the iPod connections.	9
	• Insert the AC adaptor of the iPod control dock into the power outlet.	–
	• Switch the input source to "DOCK".	11
"Connection Error" is displayed.	• Unable to communicate properly. Turn off the power to this unit, disconnect the iPod and then reconnect it.	–
	• The iPod is not responding. Turn off the power to this unit, disconnect the iPod and then reconnect it.	–
"Not Support" is displayed.	• The iPod connected to the unit is not compatible. Please make sure the iPod you are connecting is compatible.	–
	• The software version of the connected iPod is an old one. Please update to the latest version.	–

【Remote Control Unit】

Symptom	Cause/Solution	Page
The set cannot be operated with the remote control unit.	• Batteries are worn out. Replace with new batteries.	49
	• Operate the remote control unit within a distance of about 7 m from this unit and at an angle of within 30°.	49
	• Remove any obstacle between this unit and the remote control unit.	49
	• Insert the batteries in the proper direction, checking the ⊕ and ⊖ marks.	49
	• The set's remote control sensor is exposed to strong light (direct sunlight, inverter type fluorescent bulb light, etc.). Move the set to a place in which the remote control sensor will not be exposed to strong light.	49

Resetting the microprocessor

Perform this procedure if the display is abnormal or if operations cannot be performed.
When the microprocessor is reset, all the settings are reset to their default values.



1 Turn off the power using **ON/STANDBY**.

2 Press **ON/STANDBY** while simultaneously pressing I◄◄ and ►►I.

3 Once the display starts flashing at intervals of about 1 second, release the two buttons.

If in step 3 the display does not flash at intervals of about 1 second, start over from step 1.

Specifications

❑ Audio section

- **Power amplifier**

Rated output:
Front:
75 W + 75 W (8 Ω, 20 Hz – 20 kHz with 0.08 % T.H.D.)
110 W + 110 W (6 Ω, 1 kHz with 0.7 % T.H.D.)
Center:
75 W (8 Ω, 20 Hz – 20 kHz with 0.08 % T.H.D.)
110 W (6 Ω, 1 kHz with 0.7 % T.H.D.)
Surround:
75 W + 75 W (8 Ω, 20 Hz – 20 kHz with 0.08 % T.H.D.)
110 W + 110 W (6 Ω, 1 kHz with 0.7 % T.H.D.)

Output connectors: 6 – 16 Ω

- **Analog**

Input sensitivity/Input impedance: 200 mV/47 kΩ
Frequency response: 10 Hz – 100 kHz — 0, –3 dB (DIRECT mode)
S/N: 98 dB (IHF–A weighted, DIRECT mode)

❑ Video section

- **Standard video connectors**

Input/output level and impedance: 1 Vp-p, 75 Ω
Frequency response: 5 Hz – 10 MHz — 0, –3 dB

❑ Tuner section

	[FM]	[AM]
	(Note: µV at 75 Ω, 0 dBf = 1 x 10^{-15} W)	
Receiving Range:	87.5 MHz – 108.0 MHz	522 kHz – 1611 kHz
Usable Sensitivity:	1.2 µV (12.8 dBf)	18 µV
50 dB Quieting Sensitivity:	MONO 2.8 µV (20.2 dBf)	
S/N (IHF-A):	MONO 70 dB STEREO 67 dB	
Total harmonic Distortion (at 1 kHz):	MONO 0.7 % STEREO 1.0 %	

❑ General

Power supply: AC 230 V, 50/60 Hz
Power consumption: 330 W
0.5 W (Standby)

For purposes of improvement, specifications and design are subject to change without notice.

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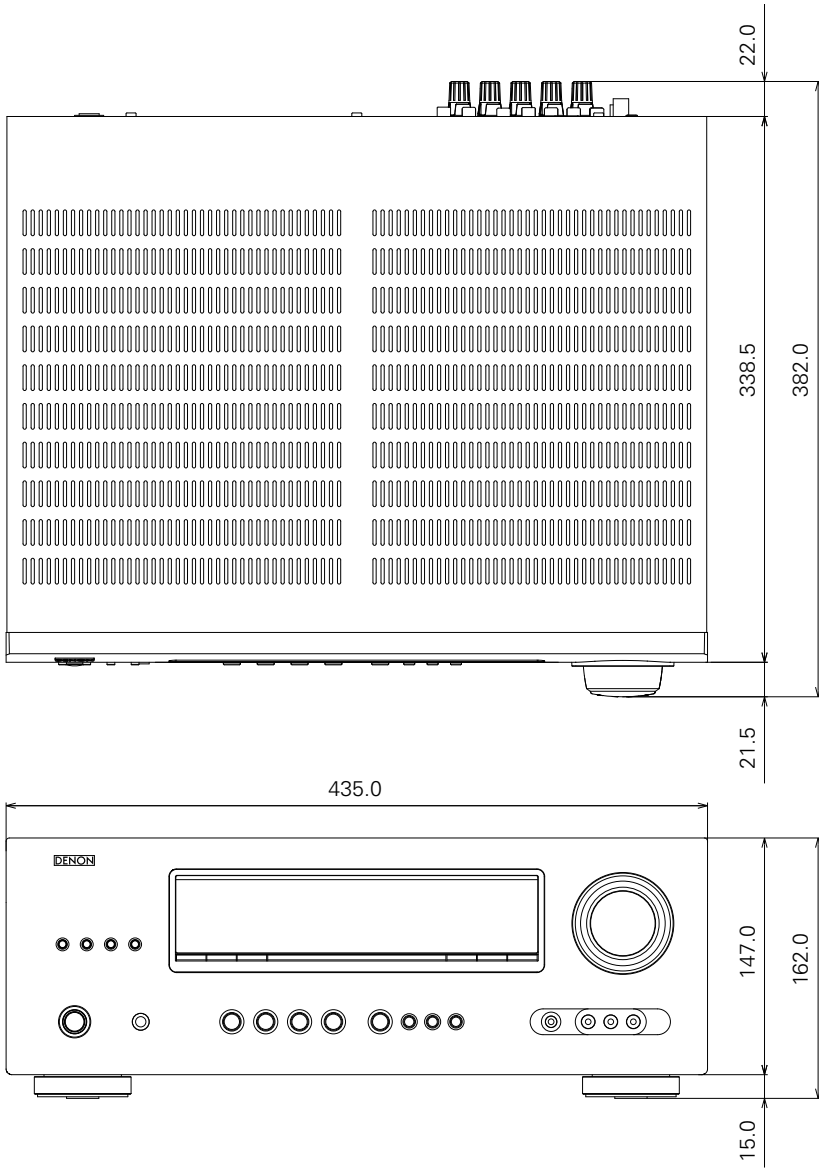

Weight : 8.9 kg

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